DEPARTMENTS OF LABOR AND HEALTH, EDUCATION, AND WELFARE APPROPRIATIONS FOR 1965

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS HOUSE OF REPRESENTATIVES

EIGHTY-EIGHTH CONGRESS

SECOND SESSION

SUBCOMMITTEE ON DEPARTMENTS OF LABOR AND HEALTH, EDUCATION, AND WELFARE AND RELATED AGENCIES APPROPRIATIONS

JOHN E. FOGARTY, Rhode Island, *Chairman*

WINFIELD K. DENTON, Indiana	MELVIN R. LAIRD, Wisconsin
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ROBERT M. MOYER, *Staff Assistant to Subcommittee*

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Part 2

Public Health Service
(Exclusive of National Institutes of Health)

Printed for the use of the Committee on Appropriations

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DEPARTMENTS OF LABOR AND HEALTH, EDUCATION, AND WELFARE APPROPRIATIONS FOR 1965

Tuesday, February 18, 1964.

PUBLIC HEALTH SERVICE

WITNESSES

DR. LUTHER L. TERRY, SURGEON GENERAL
DR. DAVID E. PRICE, DEPUTY SURGEON GENERAL
DR. JAMES V. LOWRY, CHIEF, BUREAU OF MEDICAL SERVICES
DR. ROBERT J. ANDERSON, CHIEF, BUREAU OF STATE SERVICES
DR. AARON W. CHRISTENSEN, DEPUTY CHIEF, BUREAU OF STATE SERVICES
DR. JAMES A. SHANNON, DIRECTOR, NATIONAL INSTITUTES OF HEALTH
DONALD F. SIMPSON, EXECUTIVE OFFICER
HARRY L. DORAN, CHIEF FINANCE OFFICER
JAMES F. KELLY, DEPARTMENT BUDGET OFFICER

Statement of the Surgeon-General

Mr. Fogarty. The committee will come to order. We have now the Surgeon General before us.

Dr. Terry, do you have a statement for the committee?

Dr. Terry. Yes, Mr. Chairman.

If you are agreeable, I would like to present the entire statement.

Mr. Fogarty. You do whatever you think is best for your program.

Dr. Terry. That is what I am interested in, sir.

Mr. Chairman and members of the committee, in reviewing the work of the Public Health Service during the past year and sketching our plans for the year ahead, I shall aim for brevity, leaving more detailed accounting of our current and proposed activities to the bureau and division chiefs who will appear before you later in these hearings.

Probably the most heralded event in the Service during the past year was the release on January 11 of the report of the Advisory Committee on Smoking and Health.

This report has been widely and, I believe, correctly hailed as a vitally important document which can ultimately lead to important health benefits for the American people.

In response to the Committee's recommendations for appropriate remedial action we are now in process of developing a broad program of public and professional education and research.

In designing our program, we have had the good fortune to have the counsel and assistance of a number of the large voluntary health organizations which also have an interest in the smoking problem.

BUDGET SUMMARY

Our total request for new obligational authority in 1965 amounts to $1,962,260,000 compared with $1,754,157,000 enacted or proposed for 1964. The total includes $289,285,000 that will be submitted at a later date under proposed legislation. Estimates for Indian health and emergency health activities which are presented to other subcommittees amount to $79,758,000, leaving $1,882,502,000 for consideration by your committee.

COMMUNITY HEALTH

The widespread application of medical knowledge through the effective delivery of health services is a primary area of concern for the Nation's health resources.

The Congress has recognized the importance of the Public Health Service's role in stimulating and supporting the development of community health services through a series of vital legislative acts during the past 3 years—the Community Health Services and Facilities Act of 1961, the Vaccination Assistance and Migrant Health Acts of 1962, and the Health Professions Educational Assistance Act and mental health and mental retardation legislation in the first session of the present Congress.

If preventive, curative, and restorative services are to be readily available to people in need of care, the community in which they live must have adequate supplies of manpower, facilities, and effectively organized services.

Our community health programs are directed toward the strengthening of these essential resources and the budget before you reflects this emphasis.

HEALTH MANPOWER

In the field of health manpower, the Health Professions Educational Assistance Act of 1963 enables the Service to provide needed support to the institutions which produce the skilled professionals upon whom our future health depends.

Funds to implement the first phase of both the construction and loan programs authorized by this act are included in a 1964 supplemental request pending before the committee.

A request for $75 million in our present budget is included for the second phase of the program to aid in the construction of teaching facilities for medical, dental, and allied personnel and $10.2 million is requested for the student loan program.

I know that this committee is keenly aware of the critical national need for highly qualified physicians, dentists, and other professional health manpower which these funds will help to meet.

Separate legislative proposals recommended in the President's health message of February 10 are designed to deal with other health manpower needs.

The public health training program, which also has contributed significantly to improving the quantity and quality of professional personnel needed to carry out public health programs, is due to expire on June 30, 1964.

The proposed legislation, which incorporates many of the recommendations of the Second National Conference on Public Health Training held in August 1963, is designed to extend and expand this productive program.

NURSING

Similarly, in the critically important field of nursing, proposed legislation has been submitted which would incorporate most of the recommendations of the two expert groups which reported to me in 1963—the Consultant Group on Nursing and the Evaluation Conference of the Professional Nurse Traineeship program.

The nursing profession has acquired many new responsibilities due to the rapid growth of medical knowledge through research. These responsibilities require far higher levels of skill and competence, and Federal assistance is urgently needed across the entire range of nursing education.

The need for cohesive, comprehensive programs of continuing education which will enable physicians, dentists, and other health personnel to keep pace with their rapidly developing professions is now widely recognized by the professional societies and educational institutions in the health field.

We in the Public Health Service believe that we have an important role to play in encouraging and providing continuing education, as an indispensable part of our broad mission related to the delivery of the best in modern health service.

Many of our community health divisions are already engaged in continuing education activities on a modest scale in their fields of special competence, and we intend to give stronger emphasis to this area in the years ahead.

HEALTH FACILITIES

In the field of health facilities, as this committee is well aware, the hospital and medical facilities construction authority, the Hill-Burton program, is due to expire on June 30 of this year.

This expiration accounts for a reduction of $220 million in the 1965 budget as compared with that of 1964.

Proposed legislation has been introduced which will extend and modify our hospital construction program permitting greater concentration on such areas of critical concern as the medical facilities needs of the metropolitan areas, the modernization of existing facilities, and the continually increasing national requirements for facilities serving the chronically ill and aged.

Also in the health facilities area, an increase of $12.5 million is requested to implement the new program for the mentally retarded included in Public Law 88–164.

This will enable us to assist in the construction of facilities for the mentally retarded specially designed for the diagnosis, treatment, education, training, or custodial care of the mentally retarded.

As reflected in the October 1962 report of the President's Panel on Mental Retardation, this is a major national health, social, and economic problem affecting some 5.4 million children and family members in this country.

The report estimates that the cost of care for those affected at approximately $550 million a year from State and local tax funds alone, plus cost to families and a loss to the Nation of several billion dollars of economic output.

I have created a special Mental Retardation Branch within the Division of Chronic Diseases to deal more effectively with this critical national problem.

SIGNIFICANT PAST-YEAR DEVELOPMENTS IN COMMUNITY HEALTH

There have been several significant new developments in the community health field during the past year. The report on the utilization of the research grant authority newly vested in our community health programs, submitted to this committee in response to your request, has been of great benefit to us in clarifying our thinking as to the major target areas for community-oriented health research and as to the means whereby community health research may complement the biomedical research conducted and supported by the National Institutes of Health.

Funds are requested this year for the first time for the training of urgently needed research personnel in chronic disease control and community health practice.

I spoke earlier of the report of the Advisory Committee on Smoking and Health. As a part of our efforts to translate its findings and conclusions into affirmative action, the Service is contemplating the establishment of a National Clearinghouse on Smoking and Health as a special unit in the Division of Chronic Diseases.

Still another report with significant implications for the future of community health was produced by the Task Force on Tuberculosis Control requested by this committee and headed by Dr. Porterfield. We are reviewing our programs in the light of its recommendations, to determine how we can make a more effective contribution in further reducing the toll of tuberculosis.

We have completed during this year a study and evaluation of the programing and management policies and procedures which are used in administering our formula grants to States for health service activities.

This study has resulted in a number of recommendations for improving the effectiveness of these funds and the efficiency of their administration.

We are now developing programing guides for each of the formula grants, and revising and improving our requirements governing submission of State plans to provide a more meaningful basis upon which proposed uses of grant funds can be evaluated.

In addition we are tightening our policies for submission and review of revisions of State plans and budgets in order to improve the utilization of grant funds.

As a result of the above policy changes in formula grant administration, we feel that the Public Health Service will have better control of the use of these funds.

Thus the Congress can be assured that the money will be utilized more effectively for the purpose for which it was appropriated.

COMBATING CHRONIC DISEASES AND ACCIDENTS

The proposed budget before you includes other increases in the community health field which, though small, are of special significance in combatting such major health menaces as the chronic diseases and accidents.

Funds are included to advance the development of a driving simulator, a project that will ultimately help to reduce significantly the death toll from traffic accidents which reached the staggering total of some 43,000 in 1963.

Increases in project grant funds will enable us to acelerate the acceptance and use of mammography as a diagnostic aid in cancer of the breast.

In the neurological and sensory diseases, the increase requested will permit us to build upon programs of professional education now underway, to help remedy the acute shortage of qualified personnel for community service in this field.

The recent decisions of New York City and Detroit to fluoridate their water supplies represent a major forward step in the field of dental public health.

The population of these two metropolitan areas will add greatly to the present total of 46 million Americans now drinking fluoridated water. Another significant advance during the past year has been the completion by our Dental Division of the first phase of its study of the incidence of cleft lip and palate, which provides detailed information on the parental and individual characteristics of 4,450 babies in 4 States who were born with these defects. This study is now being enlarged to include similar information from 30 States.

The continuing challenge of the chronic diseases, the communicable diseases and accidents can only be met by fostering the rapid application of swiftly developing research knowledge bringing the best available care to the greatest possible number of our people.

The proposed community health budget will enable us to continue our productive programs in support of this nationwide effort and to advance more rapidly in certain areas of immediate critical need.

ENVIRONMENTAL HEALTH

In the field of environmental health, our request for the coming year represents one of our major areas of increased activity.

Several developments during the past year indicate the growing importance and interest in protecting the public from hazards in the environment.

A major event, of course, was the passage by the Congress of the Clean Air Act, a revision and extension of previous air pollution control legislation that will furnish much impetus to our efforts for helping our cities and States meet the Nation's problems in this area.

Of great importance, I think, is the interest and action that many organizations are taking in the field of environmental health. As you know, several committees of the Congress have conducted special studies of different aspects of environmental health.

The President's Science Advisory Committee issued a special report on the use of pesticides, about which I would like to talk more in a moment.

The National Health Council will devote all of its annual meeting next month to the subject of environmental health. The American Medical Association will hold a special meeting on the subject for several hundred of its members in Chicago this spring. And the Urban Affairs Advisory Committee, which I appointed last year, has indicated primary interest in environmental health.

In addition, the American Public Health Association, at its last annual meeting, created a special section in its organization on radiological health, and the Scientists Institute for Public Information—with 40 chapters scattered over the Nation—now plans to enter into active education of the public about the various fields of environmental health.

So we are far from alone in our concern for solving the many problems standing in the way of a healthy environment.

The President's report on the use of pesticides last May was the beginning of a major effort to grapple with this complex problem. We have already started many projects to study the pesticides problem and plan many more, as you know from the regular budget request and the supplemental request before you.

I think, however, it is important to recognize that the pesticides activity is an excellent illustration of one of the fundamental factors in the environmental health field—the interrelationship of all fields of the environment.

We are studying the presence and effect of pesticides in air, water, soil, and food and we are well aware that the real long-term effects of pesticides will be known only when we are sure of the amounts of residues reaching human beings through all of these media and their reaction with each other.

Another major development affecting our environmental health program during the past year was the achievement of an agreement with the Soviet Union to cease the testing of nuclear weapons in the atmosphere.

We must, however, maintain and improve our machinery and capability for fallout surveillance. In addition, however, we plan to give more attention to other aspects of the radiological health problem, including assistance to States to improve their own programs.

It is worthy of note, I think, that in several of our environmental health programs we are planning expansions of our training and training grant activities, so that the aggregate will enable us to take a real step forward in the drive to cure the shortage of skilled personnel in the field of environmental health.

Mr. Chairman, while I am reporting on developments and progress during the past year, I think it worthwhile to note that both of our laboratories for the study of shellfish sanitation measures were opened and put in operation during this year—one in Alabama to service the States of the Southern part of the Nation and the one in Rhode Island to serve the Northeast. We look forward with pleasure to their future accomplishments.

ENVIRONMENTAL HEALTH SCIENCES

As I reported to the committee last year, we have been concerned about supporting noncategorical research to develop basic fundamental knowledge that will be applicable to the entire field of environmental health. For this purpose you approved a new appropriation, "Environmental health sciences," and we are very pleased at the progress we have made in starting research under the new authorization.

The need to develop a comprehensive and integrated approach to understanding the complexities of our environment and its impact on our health has been repeatedly emphasized to us during the past year.

Our grants under this appropriation have all been aimed at the objective of ascertaining the total effect that all kinds of contaminants have upon our health, regardless of whether they reach our bodies through the air we breathe, the water we drink, the food we eat, or a combination of these.

As I indicated briefly earlier, the pesticide problem is a true illustration of the need for this integrated approach, and we have been able to get many projects in the pesticide field started under this appropriation.

In 1965 we plan to expand the six community studies proposed for this year and to begin six new ones for the study of pesticides in the general environment.

We also plan to expand the studies of some of the occupational groups especially exposed to pesticides, to do more toxicological research, and to establish a pesticide intelligence system. We believe that these pesticide efforts, coupled with other basic and fundamental studies not specifically related to pesticides, will maintain the momentum we have generated in this important area.

AIR POLLUTION

The passage of the Clean Air Act, as I have said, has provided a tremendous boost to the national effort to deal with the air pollution problems of our cities. We are looking forward to 1965 as the busiest and most productive year ever in all aspects of this problem.

A major area of activity under the new legislation will be financial assistance to help State, local, and regional agencies to examine and assess the extent of their air pollution problems and to establish or strengthen programs which are already in existence.

During 1965, we also plan to continue our efforts to solve the problem of air pollution effects of motor vehicle exhausts and to proceed with the development of criteria for air quality.

This is badly needed by the States and cities as guides to formulating legally enforceable standards.

Our request for 1965 also calls for increased activity in training activities, fellowships, surveys, and demonstrations. We believe that the year ahead will see greatly increased activity not only in the Federal Government but every level of government in the fight to clean up the air of our Nation.

WATER POLLUTION CONTROL

This past year, Mr. Chairman, two special subcommittees of the Congress have looked extensively into the Nation's water pollution problem and both have reaffirmed the compelling need to maintain and increase our efforts to deal with this problem.

Although this major problem is essentially simple—a relatively constant supply of water with an increasing number and complexity of uses—the avenues of solution are many and varied. In 1965 we hope to make definite strides forward in several different areas of water pollution control activity.

In the water pollution area the enforcement program has initiated nine actions during the current year and the requested increase for this activity will enable us to expand two major studies now involved in the enforcement process.

This also will permit us to be ready to start at least one other study which we expect may be necessary.

In our research, training and technical services work, we plan to begin this year the programs that will put into operation four of the scheduled seven water pollution control field laboratories: Ada, Okla.; Athens, Ga.; Corvallis, Oreg.; College, Alaska; and the National Water Quality Standards Laboratory at Kingston, R.I.

Two other important projects will be the expansion of the acid mine drainage study, which will be helpful to the development of depressed areas in the Appalachian region, and the study of pesticides in water supplies.

Expansion of our program of comprehensive studies of river basins also is planned in the proposed budget. Four projects already underway would be accelerated and one new project covering the tristate Metropolitan New York area would be initiated.

Another broad area of advance we plan for the coming year is the grant support of institutions, scientists, and engineers conducting studies of water pollution and grants for outstanding individuals working in these areas.

THE PUBLIC HEALTH SERVICE HOSPITALS

The Public Health Service hospitals are valuable assets in the Nation's health resources in three major areas—medical care, research, and medical education.

Most of our patients work at jobs vital to the national defense and prosperity—American seamen, the U.S. Coast Guard, the Coast and Geodetic Survey, and others.

These hospitals also are conducting important clinical research. Current projects include cancer chemotherapy and clinical drug trials in the treatment of heart disease and kidney disease.

Our hospital in Carville, La., is doing research in leprosy and provides training in the treatment of the disease for physicians and other health workers from many nations throughout the world.

Most of the Public Health Service hospitals are associated with leading medical schools, and several are conducting research in cooperation with these schools.

The training of physicians, nurses, dentists, pharmacists, dietitians, and other health workers is another major function of these hospitals.

This year there are more than 250 medical interns and residents training with us in our hospitals. The hospitals are especially important in the recruitment and training of medical officers for the Public Health Service. Many of the officers now holding key positions in the Service were trained in our hospitals.

A modest increase is being requested in the appropriation for the hospitals primarily to cover mandatory expenses. In accordance with a request of the Senate Subcommittee on Appropriations the 1965 estimate includes funds for minor repairs and supplies for the hospitals which were formerly handled by the General Services Administration. This estimate also proposes a change from direct appropriation to a reimbursable basis of the patients admitted to the hospitals for special study.

FOREIGN QUARANTINE

This marks the 16th consecutive year in which there were no outbreaks in our country of quarantinable disease introduced from abroad. We are proud of this record and the dedicated men who have made it possible. But smallpox and cholera took the lives of a good many thousands in other lands last year.

There are outbreaks of these diseases throughout the world now, today. More and more Americans are traveling to other countries every year. More citizens of other countries are coming to the United States. We must continue our vigilance if we are to protect the lives and health of our people.

This year, because of the increased danger that disease might be brought into the country by travelers, I urged all persons working in hospitals and those providing services to travelers to be immunized against smallpox.

The American Medical Association has also urged all physicians in the country to immunize themselves and to inform their patients about the necessity for immunization.

A small increase has been requested to meet mandatory expenses in the quarantine service and to provide medical examinations for visa applicants at six additional oversea locations. All costs for these examinations are paid for by fees from visa applicants.

HEALTH COMMUNICATIONS

In order to get the full value from the extensive health effort underway in this country, we must improve the communication of health knowledge. We are fully cognizant of the needs, but we have not yet found all—or even the best—means to meet them.

On the other hand, we are moving forward in this field. A giant step has been taken by the National Library of Medicine in preparing an index to the medical literature.

The first edition of the new index, produced entirely by a computer, was printed early this year; namely, the January 1964 issue.

This will give physicians, scientists, and educators all over the world rapid access to the latest developments in medical science for their use in caring for patients and for advancing knowledge in health.

The National Institutes of Health has made grants to study the basic processes of communication as they relate to health; and we are experimenting with various information methods and systems. We have, for example, established several centers for screening and evaluating information in specific categories, such as Parkinson's disease or viral factors in cancer.

We are supporting programs in the continuing education of physicians, employing the most modern teaching devices. To reduce the lag between the finding of information and its formal publication in journals, we are developing clearinghouses on various subjects, such as air pollution, dental health, and mental health.

And we are working closely with the Food and Drug Administration to improve the reporting of drug information.

But we must increase the numbers of people qualified to evaluate drugs in clinical studies. We must systematize the collection and distribution of health information to scientists qualified to review, appraise, and relay this information effectively.

We must improve our methods of providing health information to the public as a basis for wise and informed decisions.

We hope to increase our efforts to meet these truly formidable challenges in the health field.

MEDICAL RESEARCH

Progress against the diseases of mankind continues through the research conducted in the laboratories of our National Institutes of Health at Bethesda and in the many laboratories and clinics across the Nation where research is conducted with support from the NIH.

As this committee well knows, much of the research is of a very basic nature and the results to be seen in terms of direct health benefits—payoffs, if you will—come slowly. That the research is enabled to continue and to progress at an ever-increasing rate is indeed a tribute to the understanding and farsightedness of the members of this committee and of the Congress as a whole.

LEUKEMIA

I am happy that I can report to you today some rather heartening advances in one of the heretofore most discouraging areas, that of childhood leukemia.

For years, this malignant disease of the blood-forming organs has continued to take its tragic toll. Now we find the gloomy picture brightening. There is not yet a cure, nor a so-called breakthrough, but the remission rate for children with acute leukemia has increased to about 90 percent and the length of these remissions—periods of freedom from symptoms of the disease—has increased dramatically too.

This means increased life expectancy for these children, so that one can now think in terms of years of survival, instead of the mere months of average survival which was all that prevailed a short time ago. In fact, a registry of leukemic children survivng more than 5 years has now been established.

HEART DISEASE

Heart disease continues to be the leading cause of death in our Nation. In 1963, almost half a million Americans died of coronary heart disease. Yet the statistical picture is not all dark.

The death rate from coronary heart disease has dropped substantially among white women under 55, and it appears to be leveling off among white males.

Hope for still greater improvement lies in the vast amount of biochemical research now being conducted from which is coming more and more knowledge of the underlying mechanisms of fat metabolism in relation to atherosclerosis and of neurochemical control of blood pressure.

Meanwhile, spectacular advances in cardiac surgery continue and there is the prospect of an artificial replacement for the human heart.

SYNTHETIC INSULIN

A significant research development of the past year has been the synthesis of a molecule with insulin-like action in the search for a completely synthetic insulin.

For the immediate future, this will provide a valuable research tool for studying the mechanism of action of insulin in diabetes. Further development of this chemical advance may lead to synthesis of a molecule that can replace insulin which is now derived from animal sources.

CONTROL OF INFECTIOUS DISEASES

An important advance for the control of infectious diseases was the finding that a relatively cheap and nontoxic chemical given by mouth can prevent smallpox. The research which led to this was begun 10 years ago by a scientist now on the staff of the National Institute of Allergy and Infectious Diseases.

The chemical he first experimented with was modified by chemists of the Burroughs Wellcome Research Laboratories and the successful clinical trials of their product conducted this past year in Madras, India, were supported in part by the NIAID.

Although vaccination remains the accepted public health measure for protection against smallpox, the chemical, which is effective when given after exposure to smallpox, promises to be a valuable weapon for preventing epidemics of this virus disease as well as for use among peoples to whom vaccination is either unavailable or unacceptable.

The successful use of this chemical, a thiosemicarbizone, in one virus disease, and of another chemical, IUDR, in treatment of the serious virus infection of the eyes, herpes keratitis, encourages us to hope that chemical prophylaxis and treatment will become increasingly important in combating the ubiquitous viruses that invade man and are now implicated in conditions ranging from the upper respiratory diseases to cancer and rheumatoid arthritis.

Organizationally, our wholly new National Institute of Child Health and Human Development, authorized by the 87th Congress and established just a year ago, has gone through the period of staffing and organization.

This and the transfer of funds from the categorical Institutes was successfully accomplished and the Institute is now proceeding to support research and training in areas of its special interest and responsibility.

I am sure that when we appear before you next year there will be many solid advances in the fields of child health and aging to report.

MENTAL RETARDATION AND MENTAL HEALTH

The primary attention given last year by the Congress and the administration to the fields of mental retardation and mental health, culminating in the passage of Public Law 88–164, has enabled three of our Institutes to move ahead more vigorously in their efforts to combat these grave afflictions.

The National Institute of Child Health and Human Development will concern itself especially with fundamental inquiry into causality of mental retardation in the context of human development, both biological and developmental.

The new Mental Retardation Research Centers are also the responsibility of this Institute, and it is now drafting plans and guidelines for the construction of them, working in cooperation with the Division of Research Facilities and Resources.

The National Institute of Mental Health centers its research interest on problems of prevention and on understanding the contributory influences of sociological and environmental factors.

The National Institute of Neurological Diseases and Blindness focuses its research on etiology, treatment, and prevention of disorders of the nervous and sensory system including those resulting in such deficits as mental retardation.

More specific reports of research accomplishments will be given by Dr. Shannon and his associates, and they will show important advances on a broad front, with a promise of greatly increased benefit to the health of our people and of people everywhere.

This, Mr. Chairman, concludes my remarks on the proposed budget before you. I believe you will agree that in its drafting we have been mindful of President Johnson's insistence on frugality. We have done our best to assure the utmost in economy without sacrifice of program.

It is always a pleasure to appear before you and your committee, Mr. Chairman.

We deeply appreciate your very great interest in the activities of the Public Health Service. Of course, you know I shall be glad to fill in any gaps or answer any questions, and Mr. Chairman, I expect to be here with the other witnesses who will be testifying for the Public Health Service throughout most if not all of the rest of the hearings.

Mr. FOGARTY. Thank you, Doctor, that was a very fine statement. Just what kind of compromises did you make because of the President's insistence on frugality?

Dr. TERRY. There are many areas I daresay, Mr. Chairman, in every Bureau and in a very large number of program areas where the directors, who are responsible for the direction of the program, did not get as much as they felt they would like to have.

FURTHER REVIEW OF 1965 ESTIMATES

Mr. FOGARTY. Are you people still reviewing your budget estimates for 1965?

Mr. KELLY. We are.

Mr. FOGARTY. The Secretary of Labor told us that they were not. Then we heard from other sources that there is a possibility of their estimates being cut back from the figures they gave us. The situation seems to be a little confused.

Mr. KELLY. We are engaged in an evaluation on manpower utilization. I indicated that the Budget Bureau is reviewing this with us and they are getting ready for a presentation to the President.

We expect to have the outcome of that for you in a couple of days and I promised Mr. Laird we would submit to the committee any modifications that resulted in 1965 staffing estimates as a result of this study.

PRESIDENT'S HEALTH MESSAGE

Mr. FOGARTY. I have just read the President's health message again, Dr. Terry. Did you find anything exciting in the message this year?

Dr. TERRY. I thought it was a good comprehensive document——

Mr. FOGARTY. Anything new?

Dr. TERRY (continuing). Which included the important program areas where we are now working and where the President felt that our greatest prospects appeared to be in the immediate future.

Mr. FOGARTY. I read that over twice and I did not find anything new.

Dr. TERRY. Quite frankly, I don't think that this message carries any great new directions in terms of our health programs. But it does very clearly emphasize many of the areas in which a great deal more work is to be done, including research and health protection, manpower, mental health, and mental retardation.

Mr. FOGARTY. Nurses training.

Dr. TERRY. That is right, sir.

Mr. FOGARTY. There was not anything exciting about it, was there?

Dr. TERRY. We are always excited about constructive programs like this, sir.

Mr. FOGARTY. And this is one of the most conservative budgets we have had for the Public Health Service in a long time.

Dr. TERRY. Yes; it is a very conservative budget.

Mr. FOGARTY. The more conservative it gets, the less exciting it gets to me.

That is the comparison I am trying to make.

Dr. TERRY. I think, sir, you must appreciate the tremendous number of new programs which, for instance, have just been given to the Public Health Service in the past 2 years.

Mr. FOGARTY. It is nothing compared to what has been given to the Department of Education in the last——

Dr. TERRY. No; I think we have been given more program areas than they have, some of theirs amount to a few more dollars maybe.

Mr. FOGARTY. They have really grown up.

Dr. TERRY. Yes; they have had a very rapid growth.

HILL-BURTON ACT

Mr. FOGARTY. Now, in regard to the Hill-Burton Act, what has been done about it, do you or have you proposed an extension?

Dr. TERRY. Yes, sir; as I understand——

Mr. FOGARTY. Is it up here before Congress?

Dr. TERRY. The proposal has been forwarded to the Congress but I do not believe it has yet been presented; isn't this correct, Mr. Kelly?

Mr. KELLY. Introduced; but the Secretary has transmitted the bill to carry out the President's recommendations to the Speaker of the House and President of the Senate.

Mr. FOGARTY. The chances are there will be no action taken before we take action on this appropriation bill.

Mr. KELLY. I think that is true. I am very hopeful that the Congress will have enacted the legislation so appropriations can be made before they go out of session inasmuch as appropriation authority will have expired at the end of this fiscal year.

Dr. TERRY. In connection with the Hill-Burton Act, I mentioned in my statement here that beyond just simple extension, there are recommendations for expansion and changes, particularly in the direction of modernization of existing facilities which have become inadequate.

I think that was in the health message, too.

We feel this is very important.

EVALUATION OF 1965 BUDGET

Mr. FOGARTY. We were talking about how conservative your budget is this year. When you take a look at this sheet that shows the history of the budget requests, the Office of Education shows very few minus signs. Then we get in the Public Health Service about all I see are minuses.

You did not do nearly as well as Education did.

Mr. KELLY. We are attempting to catch up with Education.

Mr. FOGARTY. Practically everything is minus. We will put the tables for the Office of Education and the Public Health Service in the record.

(The tables referred to follow:)

History of the 1965 budget

Appropriation (a)	1964 appropriation [1] (b)	1965 estimate to the Department (c)	1965 Department estimate to Bureau of the Budget (d)	1965 President's budget (e)	Difference, col. (c) minus col. (e) (f)	Difference, col. (d) minus col. (e) (g)
Office of Education:						
Expansion and improvement of vocational education (annual)	$94,756,000	$183,296,000	$183,296,000	$183,296,000		
Promotion of vocational education, act of Feb. 23, 1917 (permanent)	7,161,455	7,161,455	7,161,455	7,161,455		
Higher education facilities construction	266,750,000	464,000,000	464,000,000	464,000,000		
Further endowment of colleges of agriculture and the mechanic arts (annual)	11,950,000	11,950,000	11,950,000	11,950,000		
Colleges for agriculture and the mechanic arts (permanent)	2,550,000	2,550,000	2,550,000	2,550,000		
Grants for library services	7,500,000	7,500,000	7,500,000	7,500,000		
Payments to school districts	320,670,000	359,450,000	359,450,000	359,450,000		
Assistance for school construction	60,346,000	58,400,000	58,400,000	58,400,000		
Defense educational activities	254,878,000	287,890,000	287,890,000	287,890,000		
Educational improvement for the handicapped	14,000,000	16,500,000	16,500,000	16,500,000		
Cooperative research	11,500,000	24,000,000	17,000,000	17,000,000	−$7,000,000	
Educational research (special foreign currency program)	500,000	800,000	500,000	500,000	−300,000	
Foreign-language training and area studies	1,500,000	3,000,000	1,500,000	1,500,000	−1,500,000	
Salaries and expenses	15,906,000	21,442,000	21,067,000	19,699,000	−1,743,000	−$1,368,000
Total, Office of Education	1,069,967,455	1,447,939,455	1,438,764,455	1,437,396,455	−10,543,000	−1,368,000
Public Health Service:						
Buildings and facilities	16,311,000	31,824,000	28,388,000	21,512,000	−10,312,000	−6,876,000
Accident prevention	4,183,000	5,402,000	5,402,000	3,823,000	−1,579,000	−1,579,000
Chronic diseases and health of the aged	55,950,000	62,039,000	59,577,000	53,769,000	−8,270,000	−5,808,000
Communicable disease activities	28,564,825	38,041,000	37,438,000	30,017,000	−8,024,000	−7,421,000
Community health practice and research	29,690,000	27,085,000	29,085,000	22,644,000	−4,441,000	−6,441,000
Control of tuberculosis	6,851,000	7,501,000	7,501,000	6,364,000	−1,137,000	−1,137,000
Control of venereal diseases	9,607,000	10,147,000	10,034,000	9,725,000	−422,000	−309,000
Dental services and resources	6,266,000	6,762,000	6,762,000	6,671,000	−91,000	−91,000
Nursing services and resources	11,263,000	5,091,000	5,091,000	4,062,000	−1,029,000	−1,029,000
Hospital construction activities	231,306,000	27,881,000	27,881,000	23,346,000	−4,535,000	−4,535,000
Health professions educational assistance	30,390,000	85,782,000	85,782,000	85,782,000		
George Washington University Hospital construction	2,500,000					
Environmental health sciences	5,555,476	10,956,000	10,956,000	10,890,000	−66,000	−66,000
Air pollution	15,173,000	[2] 25,114,000	[2] 25,114,000	22,030,000	−3,084,000	−3,084,000
Environmental engineering and sanitation	9,087,000	11,168,000	10,919,000	9,215,000	−1,953,000	−1,704,000
Occupational health	5,041,628	6,223,000	6,223,000	5,215,000	−1,008,000	−1,008,000
Radiological health	19,390,000	23,521,000	23,350,000	19,640,000	−3,881,000	−3,710,000
Water supply and water pollution control	29,037,000	38,700,000	37,566,000	34,420,000	−4,280,000	−3,146,000
Grants for waste treatment works construction	90,000,000	100,000,000	100,000,000	90,000,000	−10,000,000	−10,000,000
Hospitals and medical care	51,322,000	55,290,000	55,695,000	52,710,000	−2,580,000	−2,985,000
Foreign quarantine activities	6,571,000	7,036,000	6,995,000	6,893,000	−143,000	−102,000

History of the 1965 budget—Continued

Appropriation (a)	1964 appropriation [1] (b)	1965 estimate to the Department (c)	1965 Department estimate to Bureau of the Budget (d)	1965 President's budget (e)	Difference, col. (c) minus col. (e) (f)	Difference, col. (d) minus col. (e) (g)
Public Health Service—Continued						
National Institutes of Health operating accounts:						
General research and services	$153, 210, 000	$177, 149, 000	$168, 113, 000	$163, 745, 000	−$13, 404, 000	−$4, 368, 000
Biologics standards	4, 817, 000	5, 075, 000	5, 075, 000	4, 992, 000	−83, 000	−83, 000
National Institute of Child Health and Human Development	33, 563, 000	49, 147, 000	44, 487, 000	43, 169, 000	−5, 978, 000	−1, 318, 000
National Cancer Institute	135, 817, 000	146, 898, 000	145, 058, 000	140, 962, 000	−5, 936, 000	−4, 096, 000
Mental health activities	173, 492, 000	221, 291, 000	201, 504, 000	188, 917, 000	−32, 374, 000	−12, 587, 000
National Heart Institute	116, 047, 000	132, 118, 000	128, 785, 000	125, 398, 000	−6, 720, 000	−3, 387, 000
National Institute of Dental Research	19, 140, 000	20, 943, 000	20, 290, 000	20, 135, 000	−808, 000	−155, 000
Arthritis and metabolic disease activities	106, 225, 000	121, 595, 000	117, 119, 000	113, 176, 000	−8, 419, 000	−3, 943, 000
Allergy and infectious disease activities	66, 918, 000	70, 724, 000	68, 985, 000	68, 445, 000	−2, 279, 000	−540, 000
Neurology and blindness activities	82, 934, 000	94, 245, 000	91, 204, 000	88, 428, 000	−5, 817, 000	−2, 776, 000
Total, National Institutes of Health operating accounts	892, 163, 000	1, 039, 185, 000	990, 620, 000	957, 367, 000	−81, 818, 000	−33, 253, 000
Grants for construction of community mental health centers		35, 000, 000	35, 000, 000	35, 000, 000		
Grants for construction of health research facilities	56, 000, 000	58, 000, 000	58, 000, 000	58, 000, 000		
Scientific activities overseas (special foreign currency program)	4, 000, 000	2, 500, 000	1, 000, 000	1, 000, 000	−1, 500, 000	
National health statistics	5, 963, 000	6, 390, 000	6, 390, 000	6, 184, 000	−206, 000	−206, 000
National Library of Medicine	4, 084, 000	3, 810, 000	3, 810, 000	3, 633, 000	−177, 000	−177, 000
Salaries and expenses, Office of the Surgeon General	5, 944, 000	6, 847, 000	6, 545, 000	6, 033, 000	−814, 000	−512, 000
Retired pay of commissioned officers (indefinite)	(6, 517, 000)	(7, 272, 000)	(7, 272, 000)	(7, 272, 000)		
Total, Public Health Service	1, 632, 212, 929	1, 737, 295, 000	1, 681, 124, 000	1, 585, 945, 000	−151, 350, 000	−95, 179, 000

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[1] Includes proposed or pending supplemental requests.

[2] Legislation enacted subsequently limited the total amount for air pollution to $25,000,000 in 1965.

Mr. FOGARTY. This looks to me as though we are starting downhill.

Dr. TERRY. When you speak of minuses, Mr. Chairman, you are not speaking of minuses in comparison to our programs last year but rather in terms of what the Department recommends. That is what the Department recommended in its original consideration. There are very few areas in our whole program where this shows any decrease below last year.

Mr. FOGARTY. That may be so, but that does not mean we are even holding our own. If we have as much as we had last year, that means in some ways we are going backward.

Dr. TERRY. Well, we never get all we want because it just is not consistent within the terms of the funds available through the meeting of the needs of the whole Federal Government.

Mr. FOGARTY. But again the Department of Education asked for much bigger increases than you did and they got most of what they asked for.

Dr. TERRY. Maybe they are more persuasive than we are.

Mr. FOGARTY. When I take a look at this——

Mr. KELLY. Might I just comment, Mr. Chairman. In short, the chart you are looking at relates to the action which was taken on the budget as it went through the process. But reviewed in another light, remember the tables I went over with you on the first day, the President's recommendations to the Congress are for $208 million more for the Public Health Service than is available in 1964. The $36 million of the increase is under existing legislation, or extension of expiring legislation, $109 million is the second year cost of recently enacted legislation.

And $61 million relates to new legislation which the President has proposed.

Mr. FOGARTY. I notice control of tuberculosis, you had in 1964, $6,851,000. In the 1965 budget you have only $6,364,000. There is one area where you have less than you had available in 1964.

Mr. KELLY. Yes; there are several.

Mr. FOGARTY. There are several?

Mr. KELLY. As I pointed out the other day, the specific decreases in the emergency health activities, in tuberculosis control, in chronic diseases and aging and——

Mr. FOGARTY. I remember chronic diseases and aging.

Mr. KELLY. It is primarily a change in the matching formula that affects that.

Mr. FOGARTY. This is one of the most conservative budgets in years, isn't it?

Mr. KELLY. $1,962 million for——

Mr. FOGARTY. I say it is one of the most conservative budgets that has ever been presented to this committee. I am talking about Public Health now.

Dr. TERRY. Frankly, I think it is a conservative budget in terms of all the program areas which are covered here, Mr. Chairman.

Mr. FOGARTY. I do not think it ought to be conservative, Doctor. Because we read headlines like this in the New York Times: "U.S. Health Care Is Found Laggng." "Nation Slips in Child Deaths, and Life Expectancy."

Then a recent study by the Social Security Administration shows the death rate for men for almost all ages is higher than in England, France, and West Germany. I guess there are other countries better than these three.

I do not think we ought to be a third- or fourth-rate country as far as health is concerned. I think we ought to be better than England, France, or West Germany. We are not going to get better with this kind of budget, are we?

Dr. Terry. We will make improvements with this budget.

Mr. Fogarty. We are not going to become better than England, France, and West Germany with this kind of budget or even catch up to them, are we?

Dr. Terry. I am not sure of that.

Mr. Fogarty. Those were figures by the Social Security Administration, I doubt that they are wrong.

Dr. Terry. No; so far as I know, that is correct.

SHORTAGE OF DOCTORS AND NURSES

Mr. Fogarty. We have been hearing a lot about the shortage of doctors and nurses, that there is a danger of the situation getting worse. Last August the AMA reported that there had been a sharp increase in the ratio of doctors to population.

As I remember you did not agree with that statement?

Dr. Terry. That is right.

We had a difference of opinion as to how to interpret the figures.

Mr. Fogarty. What are the true facts?

Dr. Terry. The true facts to my conviction are that there was no improvement in the population-physician ratio. One difficulty was that the figures from one time contained certain groups, like interns and residents and so on, and the other time did not, which really made the figures not quite comparable for the years.

Mr. Fogarty. You mean they were just juggling theirs?

Dr. Terry. No. I did not say that. I did not know how it occured, but our analysis of their figures revealed to us that those figures were not reliable because of the lack of comparability in the way that the groups were set out.

Mr. Fogarty. Perhaps you are saying it in a better way than I did.

INSTITUTE FOR BIOMEDICAL RESEARCH

What about the institute for biomedical research that they announced they were going to set up 8 months ago?

Dr. Terry. On the AMA?

Actually I am not certain what the status of that is. It is my understanding that they are moving ahead with it and planning——

Mr. Fogarty. What is the purpose?

Dr. Terry. Biomedical research, I guess, sir.

Mr. Fogarty. Is it to compete with anything done by the Institutes of Health, anything under your jurisdiction?

Dr. Terry. I would certainly think it would take them a long time to build anything of the quantity and quality of our NIH facilities and staff.

CONTROL OF TUBERCULOSIS

Mr. FOGARTY. Just a few weeks ago you sent us the report of the task force you established to determine the best method to use to better control tuberculosis. What do you think of that report?

Dr. TERRY. I think it is a good report.

Mr. FOGARTY. Do you think we ought to follow the recommendations?

Dr. TERRY. I would like to see us work toward that. I think you must appreciate the budget which we are presenting to you was prepared in effect and out of our hands before that task force reported.

Mr. FOGARTY. How far does the budget for 1965 fall short of coming up to the recommended first year funding of that program?

Dr. TERRY. That fell quite short of it, sir.

Mr. FOGARTY. About how much?

Dr. TERRY. $8,700,000. The first year recommended by the task force was $2,700,000 for formula grants and $10 million for special projects, making a total of $12,700,000 for the first year.

And as you see——

Mr. FOGARTY. This is about one-third of what we ought to be doing in this field, is it not?

Dr. TERRY. It certainly does not meet the recommendations of this task force.

Mr. FOGARTY. Has any consideration been given to a budget amendment?

Dr. TERRY. Yes; but I know of no specific action that has been taken. We have not made such a recommendation to the department.

ERADICATION OF SYPHILIS

Mr. FOGARTY. Are you satisfied with the progress being made in the program to eradicate syphilis?

Dr. TERRY. Well, let me say it this way, I am much more satisfied than I was a few years ago, because I feel that we have made real progress in the last 2 years.

I think as long as we have as high an incidence of primary and secondary infectious type of syphilis as we have now, no public health or other type of physician is satisfied. But we have made real progress in the past 2 years and I think that we are on the way of getting back to where we were many years ago before we slipped, Mr. Chairman.

Mr. FOGARTY. What should we be doing now to make you and others in this field satisfied with the progress to eradicate this disease?

Dr. TERRY. Give us our budget request, Mr. Chairman.

Mr. FOGARTY. What was your budget request on this?

Dr. TERRY. About $10 million.

Mr. FOGARTY. Let me see. You asked for——

Dr. TERRY. The request is $9,725,000.

Mr. FOGARTY. You asked for $10,147,000 and the Department cut you over $100,000, did it not? $110,000. Does not the Secretary want to get rid of this problem, Mr. Kelly?

Mr. KELLY. There are slight differences here, but Dr. Baumgartner's report of a few years ago recommended establishing an eradication program. It is the basis on which we have budgeted for the last

2 to 3 years, and this is within $400,000 of that total eradication program. As compared with what we were doing prior to this report, the expansion is quite significant. This is very close to carrying out the total recommendations too for the eradication program.

Mr. FOGARTY. You are still falling $400,000 short?

Mr. KELLY. I think the $400,000 really is a difference of interpretation of what it took by and large to carry out the recommendations.

Mr. FOGARTY. Why did you reduce the request over $100,000?

Mr. KELLY. I thought it was an item that had been included that had not been in the report.

Mr. FOGARTY. What was that again?

Mr. KELLY. I said it was a new item that had been recommended that was not in the Baumgartner report.

Mr. FOGARTY. Is that why you cut the request $100,000?

Mr. KELLY. Yes, sir.

Mr. FOGARTY. Is that the only reason you cut it?

Mr. KELLY. Yes, sir.

Mr. FOGARTY. No professional reasoning behind it at all?

Mr. KELLY. No.

Mr. FOGARTY. Just a meat ax cut?

Mr. KELLY. No, we held it to the commitment which we made to you last year.

Mr. FOGARTY. That is what we call it when there is no justification for cutting it. We call that a meat ax cut around here.

REPORT ON RESEARCH IN COMMUNITY HEALTH

Doctor, you have also submitted recently another very good report on research in community health. We will put it in the record at the end of your testimony. (See page 50). You went into that in your prepared statement. In view of the need pointed out in this report, I am again surprised and disappointed that the 1965 budget actually cut back this research to about the 1964 level.

What happened?

Dr. TERRY. That was just a question of making judgments, you could not have everything you would like to have as to what programs were going to continue to support. Certainly we have had a very good support of that program over the past 2 years, particularly the past year.

Mr. FOGARTY. Yes, but you are cutting back to the 1964 level.

Dr. TERRY. Yes.

Mr. FOGARTY. Is this what your recommendation was? Or did somebody cut your request?

Dr. TERRY. I think if you will look at the figures, Mr. Chairman, you will see that we did not just go across the board and cut all of the programs, in that area. For instance, in dental services and resources, there is an increase as well as in communicable disease activities, and the biggest cut was in the hospital construction activities.

Mr. FOGARTY. In communicable disease activities your budget will support fewer projects in 1965 than you had in 1964.

RESEARCH TRAINING

I am also disappointed in both the report and the budget in that neither places any real emphasis on the need for research training.

Is not there a real need in this area for research training?

Dr. TERRY. Yes, there is.

Mr. FOGARTY. We have been talking about this for 4 or 5 years now.

Dr. TERRY. Are you referring to the community health area?

Mr. FOGARTY. Yes.

Dr. TERRY. Yes, sir, there is a real need there, there is no question about it. And we are moving ahead with some support there.

Mr. FOGARTY. Last year, I thought we were all in agreement on this. Last year, we found that there was some delay in transferring the research training grant funds from NIH to the Bureau of States Services, and at the time of last year's hearings, almost nothing was being done in the community health area.

I interpreted it, and the rest of the committee interpreted what you and Dr. Hundley said to mean that you were going to get this straightened out soon.

What actually happened?

Dr. TERRY. I think it is.

Mr. FOGARTY. Let me quote. You said:

> Now, with the training grant activities, we have nothing so far. I believe at the present time there are only two segments of the training grants which have been transferred to the Bureau of State Services.
>
> We have this under active consideration, and expect in the very near future to have the remainder also transferred. So I think we are making satisfactory progress, sir.

Dr. TERRY. All of our big community health activities have been transferred to the Bureau of State Services.

Mr. FOGARTY. Well, how much are you spending this year on research training?

Dr. TERRY. Well, you mean in community health alone?

Mr. FOGARTY. Yes.

Mr. DORAN. Where the problem comes I think is in connection with the legislation. Until it was provided by the legislation that established the Institute of Child Health and Human Development, we did not have authority for categorical research training programs in community health, only for dental and nursing.

This legislation extended it to all programs.

Mr. FOGARTY. That was changed over a year ago.

Mr. DORAN. That had not been changed at the time the 1964 budget justification was prepared. The law was enacted on October 17, 1962, so the 1964 budget as we submitted it did not provide for research training in the community health area but we do have it in certain of the appropriations this year.

Dr. TERRY. Our request in area——

Mr. FOGARTY. Well, my understanding, from what you said last year, was that this was going to be taken care of promptly.

Dr. TERRY. Well, it has been taken care of in terms of transferring the responsibility.

Mr. FOGARTY. What about the money? Responsibility does not mean much without money.

Dr. Terry. There is a fairly significant amount of money available.

Mr. Fogarty. How much?

Dr. Terry. $10,726,000 in research grants and $564,000 in research training grants.

Mr. Fogarty. I am trying to stick to research training now. Just give me the figures for research training.

Dr. Terry. Well, this year, we have more in research training than we had last year. In research training grants, for instance, last year we had $284,000 only. This year we have in the budget $564,000.

Mr. Doran. Some of this research training for 1965 is mixed in with other training programs. We can prepare a statement for the record.

Mr. Kelly. But I do think it should be clear that all of the activity which was carried on in the National Institutes of Health that we have identified as research training in the community health field has been transferred to the Bureau of State Services and so reflected in the budget. The National Institutes of Health and the Bureau have, up until the act establishing the Child Health and Human Development Institute, not had authority to carry on training in certain of these areas, and that authority is now generally available, and to a modest degree was taken note of in the 1965 budget.

Mr. Fogarty. When you take out of consideration the funds available under the nursing program and the dental program, what else is there that——

Mr. Doran. We have specifically $100,000 in chronic diseases and health of the aged, in 1965, for research training; there is research training money in nursing and some in community health practice and research.

Mr. Fogarty. I just cannot figure out—we asked this question, as you know, for a purpose last year. It appears on page 21 of the hearings under the heading "Transfer of research and training grant programs to BSS."

I cannot understand why something was not done this year about it.

Dr. Terry. It has been done, all of those programs in the community health research training have been transferred from the NIH to the community health in BSS.

Mr. Fogarty. Well, will you spell out for the record just what is available in 1964 in research training grants and what you are asking for in 1965 by category?

Dr. Terry. Yes, we will be happy to.

(The information requested is as follows:)

Community health—Research training grants

	1964	1965
Chronic diseases and health of the aged	0	$100,000
Community health practice and research	0	100,000
Nursing services and resources	$284,000	364,000
Totals	284,000	564,000

USE OF 1964 FUNDS FOR RESEARCH TRAINING IN COMMUNITY HEALTH

Mr. Fogarty. What happened to the 1964 funds?

Mr. Doran. This is for community health?

Mr. Fogarty. Yes.

Dr. Terry. They are being used, sir.

Mr. Fogarty. Well, what happened?

Dr. Terry. They are being used for the support of research training programs.

Mr. Fogarty. Where?

Dr. Terry. I cannot name them exactly.

Dr. Christensen is here.

Dr. Christensen. We asked for supporting research training in the nursing division and the dental division at the present time.

Mr. Fogarty. I am not talking about those.

Dr. Christensen. There are two projects that were submitted in community health for the Division of Community Health Services. One was from the University of California and the other was from the University of Michigan. They were for research training. They have not been funded at the present time. They were approved by the National Advisory Health Council, however.

Mr. Fogarty. They have not been funded? Why?

Dr. Christensen. They have not had their payment.

Mr. Fogarty. Why not?

Dr. Terry. What happened?

Mr. Fogarty. You know what it is all about so why do you not tell us?

Dr. Christensen. Essentially——

Mr. Fogarty. Do you want Mr. Kelly to leave the room?

Dr. Christensen. At the hearings last year, as Mr. Kelly stated, the question was asked by the committee concerning whether or not funds could be used for research training. It was stated by Dr. Hundley that he hoped a small portion of these funds could be used for training. However, we have not utilized any of these funds at the present time for training out of our 1964 funds.

Mr. Fogarty. Dr. Terry said:

> We have this under active consideration, and expect in the very near future to have the remainder also transferred. So I think we are making satisfactory progress, sir.

Dr. Terry. I was referring, I believe, there to the question of transferring these programs in community health, which were clearly community health, rather than NIH. And that we have done.

Mr. Fogarty. Mr. Kelly, I think, it is about time you said something on this. What is your interpretation?

Mr. Kelly. Well, I recall last year that there was confusion with respect to this issue and I think——

Mr. Fogarty. There was not any confusion as far as this committee was concerned.

Mr. Kelly. Well, I think it was the intent of the witnesses to make it known to you that at the time we prepared the budget, we did not have authority to carry out research training in certain of the activities which are grouped under community health in the Public Health Service, but I think we left the impression we were carrying out research training in this area in the National Institutes of Health which had not been transferred to community health. I do not believe that we feel there is research training being carried on in the National Institutes of Health which appropriately should be transferred to the Bureau of State Services, but rather there are areas of research needs in the Bureau of State Services which require augmentation for which there is presently legislative authority.

And as I say, there is some modest expansion in this area in 1965.

Mr. Fogarty. Last year, Dr. Hundley said:

> Mr. Chairman, in a general way, the transfer of research grants and training grants in environmental health is largely consummated. In the community health area, we are still in process.

Mr. Kelly. This does not mean the budget did not reflect it, but at that particular time the actual transfer of individual projects and programs had not occurred but the budget estimate had what the transfers would be and the budget that was presented to you reflected what we believed to be the total transfer.

And subsequently we went through it project by project and case by case and actually made the transfer.

But at the time Dr. Hundley was testifying, the specific transfers had not occurred, but the budget did provide for those transfers.

Mr. Fogarty. I was led to believe that something was being done at the time of the hearing. We marked up the bill with that understanding. Because we had nothing else from that time on to change our minds. It was the thinking of the committee then that this was going to take place in 1964.

What about the Michigan and California applications?

Mr. Kelly. I think what he referred to is we don't have authority, we do not have resources to fund those. We did not budget then for them and do not have the resources to cover those in 1964 but would have if the budget were approved in 1965.

Mr. Fogarty. Are there any ongoing programs that you know of that were transferred from NIH?

Mr. Kelly. Oh, the nursing and——

Mr. Fogarty. Other than nursing and dental.

Mr. Kelly. Well, the nursing and dental were transferred from the National Institutes of Health budget to the Bureau of State Services budget last year, and the specific ongoing programs were transferred and placed under the administrative responsibility of the Bureau of State Services.

And these are the only ones that we identified as being appropriate to this transfer, but we did identify areas in which there could beneficially be supported additional research training which was not currently ongoing any plaec in the service.

May I ask Dr. Shannon if what I stated is not his understanding of what——

Dr. Shannon. Yes, that is correct, sir. Our programs, save in mental health and neurological diseases and blindness, were not geared to provide for the training of service personnel even though those service personnel might have an overlay of research within the implied area as part of the total mission.

Consequently, although we transferred a substantial number of research grants to the Bureau of State Services, we transferred relatively few training grants.

Mr. FOGARTY. Is it fair to say, then, that for all practical purposes the situation now is the same as a year ago?

And you do not propose to do anything about it in the 1965 budget?

Mr. DORAN. There are some additional amounts in 1965.

Mr. FOGARTY. So small it is practically nothing.

Dr. TERRY. $280,000 worth.

FORMULA GRANTS TO SCHOOLS OF PUBLIC HEALTH

Mr. FOGARTY. You are acquainted with the letter to you from the Association of Schools of Public Health, are you not?

I note with some surprise that, although $2.5 million is authorized for formula grants for comprehensive training of public health physicians, engineers, nurses, and others, only $1,900,000 is being requested for fiscal 1965. I recall that this formula grant program was originally sponsored in 1958 by Congressman Rhodes of Pennsylvania, and many others in the House, and by Senators Hill, Kennedy, McNamara, Ives, and Cooper. The bill passed both branches unanimously and was signed by President Eisenhower. Since then, there has been extension and expansion with bipartisan congressional support and support on the part of the late President Kennedy.

The original purpose of these formula grants was to help the schools of public health offset the basic costs of providing comprehensive training, particularly the training of federally sponsored students for service in the States, in the Federal Government, and abroad.

Is this still the purpose of the formula grants?

Dr. TERRY. Yes, sir.

Dr. CHRISTENSEN. Yes.

Mr. FOGARTY. Now, I realize that other schools and agencies do public health training, but is it not true that the 12 university graduate schools of public health are the only places where broad training in all aspects of public health can be obtained?

Dr. TERRY. I think that is correct, sir.

Mr. FOGARTY. Is it true, then, that the Nation depends entirely on these 12 schools in 10 States and Puerto Rico to provide comprehensively trained public health leadership for all of the country?

Dr. TERRY. Yes, sir.

Mr. FOGARTY. Are these schools doing a good job?

Dr. TERRY. Yes, sir.

Mr. FOGARTY. It has been pointed out repeatedly over the years by the Public Health Service, the Association of Schools of Public Health, and by other qualified bodies that the cost of graduate training in schools of public health is, of necessity, comparatively high and far exceeds tuition received. It has been stated that without such Federal assistance as the formula grants, the private universities and the States which support these schools would find it impossible to bear the financial burden.

Is this still the case?

Dr. TERRY. I am sorry, sir, I got distracted and I did not get the question.

Mr. FOGARTY. It has been stated that without such Federal assistance as formula grants the private universities and the States which support these schools would find it impossible to be able to bear the financial burden.

Dr. TERRY. I really am not certain I know how to answer it. Certainly it is a burden, there is no question about that, whether it will be impossible for them to meet it through some other means, I am not certain. But it is a burden.

Mr. FOGARTY. Well, it has been pointed out over the years by the Public Health Service, the Association of Schools of Public Health, and by other qualified bodies that the cost of graduate training in schools of public health is, of necessity, comparatively high and for that matter far exceeds the tuition received, and that it was a burden.

Dr. TERRY. Yes.

NATURE OF FORMULA GRANTS

Mr. FOGARTY. As to the other kinds of Federal support for public health training, such as the Public Health Service project grants, and the NIH training grants, I understand that they stimulate training in certain fields but cannot be used to help shore up the schools' teaching operations in a general way, as do the formula grants.

This was brought out in the Public Health Service report to the Bureau of the Budget in 1962 on "Federal Support of Schools of Public Health," which listed the three kinds of support and pointed out, and I quote:

> All except the formula grants are made for specifically defined and limited purposes and are not unrestricted funds for the general operations of the schools.

So is it not fair to say that the formula grants have their own special, indispensable value which is not found in other types of grants, important though they are in their own ways?

Dr. TERRY. That is correct, sir.

Mr. FOGARTY. In the interests of Federal economy, it seems to me that we should consider the comparative costs of administering these various public health training grant programs. I note that the cost of administering traineeships, project grants, and training grants is considerable and that the more you expand these programs, the more it costs the Government to run them.

I am not questioning this, but I do ask you if it is not true that the formula grant program, by comparison with the project grants and others, involves minimum administration and therefore a very slight cost to the Government?

Dr. TERRY. That is right.

Mr. FOGARTY. Is it not also true that it would cost no more to administer formula grants for $2.5 million, than it does right now to administer $1.9 million?

Dr. TERRY. I think that is correct, sir.

Mr. FOGARTY. I think that the administration and the Congress should be appreciative that dollar for dollar, the formula grant program is one of the best investments the taxpayers can make in public health training. Do you agree with that?

Dr. TERRY. Yes, sir.

STATEMENT OF NEEDS BY 12 SCHOOLS OF PUBLIC HEALTH

Mr. FOGARTY. Now, on the questions of how far the formula grants go to help the schools of public health do the job we expect of them, and whether these grants should be increased, I have a copy of a letter to you from Dr. Wegman, the president of the Association of Schools of Public Health, asking that full authorization for formula grants be appropriated and giving what I thought were some very impressive reasons why.

We will put the letter in the record at this point.

(The document referred to follows:)

ASSOCIATION OF SCHOOLS OF PUBLIC HEALTH, INC.,
Ann Arbor, Mich., January 23, 1964.

LUTHER L. TERRY, M.D.,
The Surgeon General, U.S. Public Health Service,
Washington, D.C.

DEAR DR. TERRY: The purpose of this letter and accompanying data on behalf of the 12 graduate schools of public health in this country[1] is to document what my fellow deans and I have been saying to members of the administration and the Congress during the past 2 years concerning the schools' urgent need for the full authorization of Hill-Rhodes formula grants for teaching purposes.

The history and justification of the formula grants program have been briefly and succinctly summarized in the report made to you by the Second National Conference on Public Health Training. I would emphasize that the conference, after review of the entire spectrum of training of public health personnel, was sufficiently impressed with the urgency of expanding formula grant aid that they made a specific recommendation (No. 5) for doubling the amounts of the present authorization over the next 5-year period. But the immediate and urgent need is for appropriation of the full amount already authorized.

In order to define the current situation necessitating the request, I asked each dean to furnish, for his school, a statement of the most pressing educational needs, requiring the additional funds envisaged should the full authorization be appropriated. Uniformly, the deans referred to needs greatly in excess of the allocation which each might expect with this increase but, in accordance with the request, they limited themselves to describing the highest priority items. These are shown in exhibit A and will illustrate the variety and manysidedness for which the formula grants are so well adapted. I have also extracted from the letters accompanying the deans' reports significant further explanations of their needs for formula grant funds. These are included as appendix I.

You will recall that the report, "Federal Support of Schools of Public Health," submitted by your staff to the Bureau of the Budget in 1961, pointed out that:

"The most important consideration in fixing the total amount of Federal support would be the amount required by the schools to meet the needs of the United States and of other countries as appropriate, for trained public health personnel."

At the time of that USPHS report, our summary showed that the majority of the schools of public health required the full authorization of formula funds even at that time in order to provide the truly comprehensive teaching programs expected of them. Since then, increases in student enrollment (largely attributable to expansion of the PHS traineeship program) and demands for instruction in more and more fields of importance to public health have strained all of the schools' teaching resources even further and they are unanimous in citing need for all of the Federal assistance authorized in Public Law 87-395.

Teaching costs for the 12 schools in 1963 were $3 million higher than in 1961, yet only 31 percent of this increase was covered by increased formula funds and 11 percent by additional project grants, the remaining 58 percent having been obtained by the schools and their parent universities from other sources (exhibit B). The Federal traineeship program was sharply expanded last year, with a considerable increase in federally sponsored students in the present academic year, without a corresponding increase in formula grants.

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[1] Located at University of California (Berkeley), University of California (Los Aangeles), Columbia University, Harvard University, Johns Hopkins University, University of Michigan, University of Minnesota, University of North Carolina, University of Pittsburgh, University of Puerto Rico, Tulane University, Yale University.

It has been, I believe, quite clear that the intent of the Congress was to provide formula grants as a means of offsetting the net costs, after tuition, incurred by the schools in training federally sponsored students, but only one-third of this net cost is currently being met by formula funds (exhibit C). Furthermore, there is wide discrepancy between the proportion of students in the schools who are federally sponsored (56.4 percent) and the proportion of teaching costs which are covered by formula funds (16 percent) (exhibit D). Nor is the gap narrowed appreciably by teaching-project funds which are already at the authorization ceiling and which met but 8.5 percent of the schools' teaching costs in 1963.

But the immediate question that concerns the 12 schools which I represent officially is not so much "Who is subsidizing whom?" but rather "Can we get on with the needful?"—that is, fulfilling the teaching obligation to the Federal Government, the States, and local communities which require trained public health personnel prepared to cope with the myraid problems in this complex field today and tomorrow. It bears reemphasis that these schools are preparing personnel almost exclusively for public service. The obligation calls for the introduction of new courses and the strengthening of others, mostly through the addition of faculty members who are qualified to present expert instruction in fields now not covered or inadequately covered in present curricula. I refer you once more to exhibit A which presents both the specificity and the great variety of the gaps in instruction from school to school and indicates the urgency for additional financing of the type provided by the formula funds that may be applied to the teaching program where most needed at the time.

The international role of the schools of public health and the consultative services and research performed by their faculty members bear mention here, not only as major contributions to the Nation but also as factors contributing to the schools' need for faculty augmentation. The ratio of faculty members to students must be higher in schools of public health than in most educational institutions in order to cover the wide spectrum of subjects, to teach small groups by seminar method, and to provide individual counseling and tutoring, especially of foreign students. The latter, who comprise about 25 percent of those enrolled each year, come to the U.S. schools of public health to prepare for key positions in their respective countries. The careful attention devoted by the schools to students from abroad and the advice and assistance provided by the schools to health ministries and institutions throughout the free world serve powerfully the foreign policy interests of the United States. A high proportion of U.S. public health school faculty members are engaged in international health work and virtually all of them are called upon at frequent intervals to serve the Federal Government as consultants and committee members. In addition, a considerable portion of their time is expected to be spent on research of interest to various Federal agencies and to the Congress. While such research activities are separately financed, the effect is to reduce the time which investigators can devote to instruction. More staff is needed to share the teaching load.

In concluding this appeal for Hill-Rhodes formula grant appropriations up to the full authorization, may I stress two points. First is the fact that the funds for PHS traineeships were increased for the current year, without a corresponding increase in the formula funds to help the schools meet the costs of instructing the additional trainees. Second and finally, I point out that the National Conference on Public Health Training, which you convened last August at the direction of the Congress, recommended that:

> (1) the authorization ceiling for formula grants to schools of public health be increased to at least twice the present level, and
>
> (2) there be annual increments in appropriations adequate to reach the proposed authorization by 1970, "in order to assist these schools in enriching their curricula and increasing enrollment of federally sponsored students" (exhibit E).

The supporting data, which formed the basis for this recommendation, included a schedule of appropriation increases as follows:

Fiscal year	Authorization	Appropriation [1]
1965	$2,500,000	$2,500,000
1966	2,500,000	2,500,000
1967	5,000,000	3,000,000
1968	5,000,000	3,500,000
1969	5,000,000	4,000,000
1970	5,000,000	4,500,000
1971	5,000,000	5,000,000

[1] If new schools are accredited, appropriations should be proportionately increased.

On behalf of the 12 schools of public health, which serve the Federal Government and all the 50 States and regions of the country, I express the hope that the administration and the Congress will recognize the urgency to the Nation's interest that appropriation of the total $2.5 million in formula grants for fiscal 1965 be approved as authorized by Public Law 87–395.

Very sincerely yours,

MYRON E. WEGMAN, M.D.,
President; Dean, School of Public Health, University of Michigan.

EXHIBIT A. SPECIFIC NEEDS FOR ADDITIONAL HILL-RHODES FORMULA FUNDS

If the 1965 appropriation of Hill-Rhodes formula grants to schools of public health[1] is increased from the current level of $1.9 million to the authorized total of $2.5 million, the aditional $600,000 would be utilized for teaching purposes approximately as shown below. The proposed proportioning of funds among the various subjects does not reflect degrees of emphasis placed on these subjects in the various schools; it does indicate, in each case, a need to strengthen and improve teaching, largely through adding faculty experts in the fields concerned. (See excerpts from individual dean's statements of need, app. III.)

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[1] Located at University of California (Berkeley), University of California (Los Angeles), Columbia University, Harvard University, Johns Hopkins University, University of Michigan, University of Minnesota, University of North Carolina, University of Pittsburgh, University of Puerto Rico, Tulane University, and Yale University.

Teaching area	Totals	School A	School B	School C	School D	School E	School F	School G	School H	School I	School J	School K	School L
Behavioral sciences	$25, 127					$18, 662					$6, 465		
Biostatistics	72, 989	$30, 552					$16, 716	$13, 238			6, 465	$6, 018	
Chronic disease	4, 026		$4, 026										
Continuing education (in-service training of public health workers)	61, 070	12, 186	4, 027	$18, 226		9, 331			$17, 300				
Environmental health (including air pollution and radiological hygiene)	64, 392		4, 026				15, 600	26, 475				6, 018	$13, 273
Epidemiology	10, 044		4, 026									6, 018	
Health education	13, 372						13, 372						
Infectious disease	21, 365					9, 331						12, 034	
Industrial health (including accident prevention and rehabilitation)	45, 709		4, 027				16, 716	13, 238			11, 728		
International health	36, 026								36, 026				
Mental health	4, 027		4, 027										
Population problems (public health aspects of overpopulation)	58, 544				$30, 000	9, 331				$19, 213			
Programed teaching	14, 506				14, 506								
Public health administration (including medical care)	167, 795	20, 368	4, 027	20, 000		9, 331	19, 062	26, 475	18, 300	19, 213	11, 728	6, 018	13, 273

EXHIBIT B

The extent to which Hill-Rhodes formula and project grant increases helped offset increased costs in schools of public health, 1961–63 [1]

Fiscal year	Total cost, basic operations and teaching	Hill-Rhodes	
		Formula grants	Project grants
	Millions		
1963	$11.6	$1,900,000	$990,550
1961	8.5	931,000	621,254
Increases	3.1	969,000	369,296

[1] Research costs excluded.

	Amount	Percent
Total cost increase 1961–63	$3,100,000	100
Portion of cost increase offset by additional formula funds	969,000	31
Portion offset by additional project funds	369,296	11
Portion offset by State, private, and other funds	1,700,000	58

EXHIBIT C

Comparison of formula funds and net cost of training federally sponsored students

Number of federally sponsored students	Cost of training	Tuition from Federal Government	Difference (net cost to schools)	Formula funds authorized	Formula funds allocated
1960: 717	$3,622,000	$495,000	$3,127,000	[1] $1,000,000	[1] $1,000,000
(1 student)	(5,052)	(691)	(4,361)		
1963: 913	6,542,340	901,584	5,640,756	[2] 2,500,000	[3] 1,900,000
(1 student)	(7,166)	(987)	(6,179)		

[1] 32 percent of net cost.
[2] 44 percent of net cost.
[3] 33 percent of net cost.

EXHIBIT D

Formula funds in proportion to total costs of basic operations and teaching compared with proportion of federally sponsored students in total enrollment

Fiscal year	Total enrollment	Total cost, basic operations and teaching	Formula funds allocated	Proportion of costs met by formula funds [1] (percent)	Proportion of federally sponsored students in total enrollment (percent)
1961	1,585	$8,500,000	$931,000	11	52.0
1963	1,618	11,600,000	1,900,000	16	56.4

[1] Project grants of $990,550 in 1963 met 8.5 percent of costs.

EXHIBIT E. EXCERPT FROM THE REPORT TO THE SURGEON GENERAL BY THE SECOND NATIONAL CONFERENCE ON PUBLIC HEALTH TRAINING, AUGUST 19–22, 1963, USPHS

RECOMMENDATION 5

The authorization ceiling for formula grants to schools of public health be increased to at least twice the present level, and there be annual increments in appropriations adequate to reach the proposed authorization by 1970, in order to assist these schools in enriching their curriculums and increasing enrollment of federally sponsored students.

Supporting statement

The 12 schools of public health have unusual needs and limited financial resources. Neither State legislatures nor private endowments alone can keep pace with the high costs of keeping a school strong in the many and varied elements that constitute the current complex public health program. Such strength is essential if these schools are to continue their role as the primary national resource for public health training.

In recommending progressive and substantial increase in authorization and appropriations for formula grants, the conference recognized the need to compensate the schools of public health in part for the great discrepancy between instructional cost per student and tuition received by the university. Recent figures suggest that, on the average, tuition fees cover less than one-seventh the cost of basic operations and instruction. At present, well over half the students in the schools of public health are federally sponsored. The net costs to these schools on behalf of federally sponsored students exceeded $5 million during the 1962–63 academic year.

Review of the use of formula grants to date indicated that four-fifths of the grant moneys have gone to pay salaries of personnel, mostly academic staff, but also secretarial and other supporting staff. Funds have also been used for essential materials and teaching aids. Documented planning by individual schools shows that current urgent needs are far in excess of the present authorized ceiling. Furthermore, these needs are expected to increase as enrollment grows and initial graduate study is extended beyond 1 academic year. Several programs are already of 2 years' duration, and others contemplate an increase to at least 3 semesters or 18 months in order to encompass sufficient instruction in the ever-widening field of public health.

A reasonable projection of needs, concentrating primarily on necessary increases in professional staff, indicates that a doubling of the present formula grant authorization of $2.5 to $5 million is the minimum increase required. The conference recommended annual increments in appropriations to reach the new authorization by 1970, to assure orderly growth of the schools commensurate with increased demands.

APPENDIX I

EXTRACTS FROM STATEMENTS OF SCHOOL OF PUBLIC HEALTH DEANS CONCERNING THEIR NEED FOR FULL AUTHORIZATION OF HILL-RHODES FORMULA GRANTS

"A financial crisis indeed has confronted us in the School of Public Health this year. This is the result of the augmentation of public health training funds during the current year. The augmentation of training funds has greatly increased the number of graduate students attending the School of Public Health. Thus, last year there were a total of 178 graduate students, with 139 masters students. This year the numbers are respectively 210 and 161. Thus we have run into a real crisis in even the core operations of our programs and are having to defer some of the 'enrichment and developmental' concepts we had contemplated, in order to assist in the core programs such as Public Health Administration, biostatistics, as well as the purchase of calculators and other equipment and supplies now being so heavily utilized by students. Moreover, the expansion of the short-term training provided now in the U.S. Public Health Service Training Branch under section 306 is increasing our obligation to the combined programs in continuing education by our two Schools of Public Health in collaboration with the western regional office of the American Public Health Association. Thus it was a major oversight when the funds for traineeships this current year under section 306 were increased without a corresponding increase in the appropriations up to the full authorization under section 314(c). The problem is comparable to the difficulties which arose when the original title I traineeships were established without the concurrent provision of the formula grants. The formula grants subsequently were enacted and supported us with the expanded student body made possible by the U.S. Public Health Service traineeships. Now once again the augmentation of traineeships has caught us off balance and we desperately need to catch up with the formula grants.

"I can only hope that in the future these programs will be developed with a better sense of timing and am especially concerned that the academic support for expanded public health training always lags significantly behind the student load."

"The faculty has grown to 36 full-time members supported entirely by university funds and 4 teaching positions supported by Federal funds. At the same time student enrollment has increased to 161 regularly registered graduate students. University administration and the academic Senate has authorized an enrollment of 360 FTE (full-time equivalent) graduate students including 60 doctoral candidates. We are forced to utilize the teaching services of a large number of part-time faculty from the community and jointly appointed faculty in other departments on campus. In the latter case this becomes less reliable as their own departmental instruction load increases. Therefore our faculty cannot permit an increase in enrollment and teaching load until there are provisions for additional teaching faculty in several subject areas.

"There is pressing need for the development, extension ,and enrichment of the teaching of several subject areas concerned with emerging problems of changing environments and society. In our school we wish to give greater emphasis to chronic disease, epidemiology and program administration; accident prevention including the problem of pesticides; health problems associated with metropolitanization and the metroplex; mental health in socially complex societies as well as the problems of medical care including prevention treatment and rehabilitation, among many other areas requiring more comprehensive coverage.

"With increased support for additional faculty and related costs we can move toward our goal of 360 FTE graduate students. The full authorization of $2,500,000 if Hill-Rhodes formula funds in fiscal year 1965 would provide the stimulus for the university to provide matching money necessary for us to attain our goal and further facilitate the acceptance of a larger number of students from other States."

"An increase in Hill-Rhodes formula grant funds is needed urgently by this institution. Not only was it necessary to deny admission to several good candidates to this year's class because of inadequate support for faculty and teaching facilities, but the situation is expected to become even more serious in 1964–65 and subsequently. Planned changes in the curriculum and teaching methods will require more faculty; expanding sources of student support are expected to increase significantly the number and quality of applicants for admission, increasing requirements for public health workers demand that training facilities be enlarged. A substantial increase in formula grant support is required if [this school] is to do its part in meeting this country's need for trained public health workers."

"[This school] has undertaken the development of a field which is new to the curriculums of schools of public health, the matter of population growth, and the responsibilities of the profession of public health for leadership in solving the problems of overpopulation.

"To develop new courses on this subject is one of [our] primary needs * * *. Approximately $30,000 annually for the next 5 years will be needed to pay the salaries and expenses of two new faculty members who will be responsible for (1) exploring the literature on population growth, (2) extracting the material therefrom which should be included in the new courses of instruction, and (3) organizing and conducting the courses in the [school].

"The courses will be of two kinds, first, those for the future administrators of general health activities, and second those for the students who expect to become specialists on population control.

"The second major need for additional funds under the Hill-Rhodes Act is to engage an expert to evaluate the possibilities of improving instruction in the established courses in schools of public health, by using programed instruction (teaching machines) for the biostatistics, epidemiology, and possibly also, environmental engineering. The salary and expenses of this person would be approximately $14,000 annually and would be needed for at least 5 years.

"The importance of improving instruction needs no elaboration. With myriads of new facts being discovered in the health sciences, many of which are relevant to the practice of public health, any procedure which might enhance the efficiency of graduate instruction in the health sciences should be promptly explored. Programed instruction has shown promise under some circumstances. It should now be seriously evaluated for schools of public health."

"[This school] is engaged in an expansion program designed to increase its physical facilities, its student body, and the range of study areas available to its student body. The funds received would be utilized to support the latter two elements of this expanded program.

"In the past the Hill-Rhodes funds have gone to defray salaries of staff primarily. It is anticipated that any additional funds made available would also be used for this purpose.

"Currently there are, among others, the following fields in which efforts are being made to recruit new staff members who would initiate programs: Medical care administration, behavioral sciences in relation to public health, population dynamics, sociology in public health, continuing education in public health, and public health microbiology.

"In each instance the available funding would allow the employment only of the individual heading the program and a secretary.

"If additional formula grant funds were to be made available all, or the bulk, of the funds would go to the employment of personnel in these areas to allow the appropriate strengthening of the activities or further to augment staff in existing programs to allow the maintenance of a favorable faculty-student ratio in face of an increasing student body."

"Current and urgent unmet needs appropriate for support from USPHS formula grant total approximately $221,000. These needs arise principally from a doubling since 1956 in the number of USPHS traineeship students at the school, and a 40-percent increase this year over the figures for each of the last 2 years.

"Enrollment of other federally sponsored students has also risen substantially. Furthermore, there has been an increase of one-third in total enrollment since 1957. A significant fact is that the majority of overall growth has taken place at the master's and doctoral level, while undergraduate enrollment has fallen markedly. By 1965, the one remaining undergraduate program will be terminated, yet we anticipate a net increase in enrollment from 300 to 340 during the next 2 years. Because of the dropping of the undergraduate program, the net increase means an additional 70 to 80 graduate students will have to be accommodated.

"In view of these considerations, the school faces a number of critical needs that must be met if the quality of its instructional program is to be maintained. These needs—which are specified below—fall essentially within the core program where the sharp increase in student load has resulted in excessive class size. Our calculation of needs also includes an item for teaching assistants as a means of using senior staff time more efficiently. We view the teaching assistants as providing help in the preparation of teaching materials, the grading of reports and exams, and, in general, relieving senior faculty of responsibilities which, while essential, do not require the skills of a fully prepared professional academic person. Similarly, our estimate takes into account the need for secretarial assistance for the additional academic personnel.

"Additional funds are also needed for nonsalary items. During the past 3 years necessary expenditures for supplies and equipment have been possible from savings from salary items because of the lateness of appropriations and an inability to fill certain positions at the beginning of the year. As of this year, all positions budgeted on the formula grant are filled and funds available for nonsalary items fall far short of current needs."

"The School of Public Health has within the past 5 years developed new or expanded programs of training in several areas, including radiological health, air pollution, accident prevention, hospital engineering, public health nursing education, medical care administration, biostatistics, and epidemology. All of these require more staff, as the present staff in this, as in other parts of the school, is heavily overburdened, carrying heavier teaching responsibilities than exist in any other school of public health. These programs also require additional teaching equipment, notably in the areas of radiological health, air pollution, and biostatistics. In all of these areas teaching equipment is expensive.

"The funds heretofore available under the Hill-Rhodes Act have added enormously to our teaching potential through the provision of both staff and equipment, but more is needed if we are to keep up with modern developments in these several areas. The school has a further need of expanding its staff in some of the more traditional areas of public health where the school is understaffed but is, at the moment, not developing significant new programs. I should estimate that most efficient use of the additional funds would involve approximately 50 percent for personnel and 50 percent fo requipment, provided permission is obtained to utilize the equipment funds for fairly expensive items, at least one of which might run into the neighborhood of $20,000 to $30,000, or even as high as $40,000, but would constitute equipment of permanent value in the training of advanced students in the area of biostatistics, where we currently have 29 graduate students, 13 of whom are at the post-master predoctoral level."

"We as a school are under constant pressure from here and abroad to accelerate present levels of performance in almost every facet of health activitiy. Today we could name six or more vital programs that are needing implementation if funds were available. We are herewith confining them to three which represent our best analysis of immediate needs. The following are in order of priority: (I) Establishment of a division of international health; (II) advancement of a beginning program for medical care; (III) acceleration of a continued education program.

"The tentative budget (attached) provides bare essentials in the above-mentioned program areas. It offers no flexibility and opportunity for little, if any, expansion. If we exerted an all-out effort to meet requests from around the globe, we could use the total figure [of authorized additional Hill-Rhodes funds] in priority 1 alone."

"Additional Rhodes allocation to us would be used for two urgently needed faculty appointments—one in program of training in population, the other to strengthen field facility for schoolwide teaching in public health practice."

"The Department of Preventive Medicine and Public Health of the School of Medicine [would] utilize its share of the additional Hill-Rhodes formula funds in the strengthening of teaching in the field of community health practices.

"At present, the Department is giving special interest in the development of a faculty group, who, working as a team, will be fully devoted to the teaching of this area."

"Formula grant (Hill-Rhodes Act funds) awarded to [this school] are being expended in the current fiscal year in partial support of the salaries of eight full-time members of the faculty in the following fields: public health administration (international health administration), human ecology, tropical public health, maternal and child health, biostatistics, epidemiology, and to provide honoraria to 10 part-time members of the faculty in the fields of public health administration, nutrition, and environmental sanitation."

"An additional allocation of funds, such as would accrue through raising the appropriation to the authorized ceiling (Hill-Rhodes Act), is urgently required and would be used specifically to strengthen the faculty in order that these departmental divisions may be established as independent university departments. In order to do this, additional full-time faculty members are needed in the fields of biostatistics, environmental sanitation, public health administration (medical care organization)."

"Our [need for additional Hill-Rhodes funds] may be expressed as follows:

"Planning and evaluation of health programs: Our present faculty in the teaching of public health administration is greatly overextended. As a result, we have not been able to devote sufficient attention to the important area of planning and evaluation of health programs, that is to say, planning in such a way that eventual evaluation of the program can be done in a way giving a valid estimate not only of the health benefits achieved, but also of the return in terms of 'value for money.' We badly need an additional faculty member to develop this field on a continuing long-term basis and do not have other sources of support.

"Environmental health: We are currently attempting to expand our teaching in the general field of environmental health with particular emphasis on environmental contamination. We cannot introduce additional courses without more faculty with expert knowledge of the problems of radiological health and air pollution. Our new building will provide the facilities we need. But we do not have funds for staff.

"Both these programs are at the core of modern public health training and need long-term support which is most effectively provided by the Rhodes-Hill bill. Our present Rhodes-Hill money is fully committeed this year, and this is a growing school."

SOME NOTES ON FEDERAL SUPPORT OF TEACHING IN U.S. SCHOOLS OF PUBLIC HEALTH

I. Hill-Rhodes Act, 1958 (Public Law 85–544, H.R. 11414)

Prior to 1957, many bills had been introduced in attempts to provide unrestricted Federal aid to medical and public health education but none had been successful in committee.

The Hill-Rhodes Act, sponsored by Congressman George Rhodes of Pennsylvania and Senators Hill, Kennedy, McNamara, Ives, and Cooper, passed both branches unanimously and was signed by President Eisenhower in 1958.

The Hill-Rhodes Act amended section 314(c) of the Public Health Service Act. It had the effect of:

Earmarking up to $1 million a year of the $30 million already authorized for "Assistance to States, general."

Enabling the Surgeon General to use such earmarked funds to make grants for comprehensive professional training in accredited schools of public health.

Two important features of the bill were:

A 2-year time limit, pending recommendations of the 1958 Conference on Public Health Training.

A stipulation that, in allocating the grants among schools of public health "the Surgeon General shall give primary consideration to the number of federally sponsored students attending each such school."

II. 1958 conference recommendations

The National Conference on Public Health Training (1958) recommended: Continuation of Hill-Rhodes formula grants to schools of public health with:

Removal of the time limit.

Removal of appropriation ceiling.

Removal of provision that primary consideration be given to certain categories of students.

Among other recommendations, all strongly supported by the public health schools, were:

Continuation and expansion of the traineeship program.

Grants to nursing schools for public health training.

Teaching grants to institutions, other than public health and nursing schools, for graduate training of public health engineers, sanitarians, laboratory scientists, nutritionists, and others in the public health field.

Earmarked, matching grants-in-aid to States for recruitment and training of public health personnel.

Matching grants toward construction of public health teaching facilities in public health and nursing schools.

III. Implementation of 1958 conference recommendations (H.R. 6871)

Immediately after the 1958 conference, Congressman Rhodes sponsored H.R. 6871, entitled "Public Health Training Act of 1959." This was a comprehensive measure designed to implement the conference recommendations, including Federal aid to States, nursing schools and schools of public health as well as renewal and expansion of the traineeship program.

The Rhodes package bill, as amended in committee and enacted in 1960 (Public Law 86–720), had the effect of:

Continuing the Hill-Rhodes formula grants to schools of public health with authorization of $1 million annually without limit of time.

Authorizing $2 million annually for project grants to schools of public health, nursing and engineering for "strengthening or expanding graduate public health training."

NOTE.—All other provisions embodying conference recommendations were deleted from the bill which Mr. Rhodes had introduced. The traineeship program was renewed in other legislation.

IV. Further modification of Hill-Rhodes Act (Public Law 87–395)

When the Community Health Facilities and Services Act was passed in 1961, it modified the Hill-Rhodes formula grant provision in section 314(c) of the Public Health Service Act by:

Raising the ceiling for annual appropriations from $1 to $2.5 million.

Limiting the authorization to the 5-year period of the Community Health Facilities and Services Act, expiring as of June 30, 1966, unless renewed.

NOTE.—The project grants were continued at $2 million annually, also expiring in 1966, unless renewed.

V. Allocation of formula grants to schools of public heath

The legislative history of the Hill-Rhodes formula grants indicates congressional intent to:

Help meet the basic costs of graduate education in schools of public health.

Reduce the "deficit" incurred by the schools in training federally sponsored students; that is, the difference between tuition received and costs to the schools for training federally sponsored students.

The Surgeon General's interpretation of congressional intent resulted in a PHS allocation formula as follows:

One-third of each annual appropriation is allocated equally among the schools in recognition of basic teaching costs that do not vary in direct proportion to the number of federally sponsored students.

Two-thirds of each annual appropriation is allocated to the various schools in proportion to the number of federally sponsored students in each school, using the average of the past 3 fiscal years to avoid wide fluctuations from year to year.

In the first year of formula grants (1959) the schools of public health estimated the deficit incurred for training federally sponsored students as follows:

Number of Government-sponsored students	Cost of training	Tuition paid by Government	Difference (deficit)
717	$3, 622, 000	$495, 000	$3, 127, 000
(1 student)	(5, 052)	(691)	(4, 361)

Toward the difference in cost of training and tuition received for federally sponsored students, the schools have received in actual allocations:

Year	Authorization	Appropriation	Allocation
1959	$1, 000, 000	$450, 000	$450, 000
1960	1, 000, 000	1, 000, 000	1, 000, 000
1961	1, 000, 000	1, 000, 000	931, 000
1962	2, 500, 000	1, 900, 000	1, 173, 000
1963	2, 500, 000	1, 900, 000	1, 900, 000

In its report to the Budget Bureau on Federal aid to schools of public health in 1961, the Public Health Service pointed out that the $931,000 in formula grants for that year represented only 11 percent of the costs incurred by the schools for basic operations, including teaching and training programs, and represented about 21 percent of the costs of training federally sponsored students.

VI. Justification of Hill-Rhodes formula grant program

Justification of the Hill-Rhodes formula support may be viewed from two aspects:

The view of Congress which provides this unrestricted support for comprehensive teaching programs in graduate schools of public health.

The view of the public health school deans who regard the formula funds as vitally essential to the teaching programs in the schools.

A. *The congressional view.*—The legislative record of the Hill-Rhodes formula grants indicates that the Congress justifies this type of support to schools of public health on the grounds that:

1. The schools perform an essential function for the Nation by providing comprehensively trained public health personnel for positions of leadership at Federal, State, and local levels and internationally.

Note.—The goal of the schools' graduates is almost exclusively public service or private agencies and institutions serving the public.

2. The schools are regional, not local, in nature—12 schools in 10 States and Puerto Rico, serving all 50 States, and regions of the country.

Note.—Only about 25 percent of the graduates work in the States where they attended public health school.

3. To the extent that the schools (or parent universities or States) bear the cost of training federally sponsored students, they are subsidizing training for the Federal Government.

Note.—Approximately half of the students are federally sponsored; tuition received for them from the Federal Government covers only about 13 percent of the cost incurred by the schools to train them.

4. Non-Federal support of teaching in schools of public health is limited because:

Their alumni are relatively low-paid public servants, thus unable to contribute substantially.

Private charitable organizations tend to regard training for public service as a public responsibility.

States are loath to underwrite costs of training the high proportion (75 percent) of students who come from out-of-State and will work in other States.

5. Federal demands on schools of public health to offer training in new fields and to expand existing activities to serve national interests are constantly increasing.

Note.—The USPHS traineeship program has added to the schools' enrollment, teaching responsibilities, and administrative load.

6. The schools play a vital role in international health by preparing foreign students for key positions of public health leadership in their respective countries and by advising and assisting health ministries and institutions throughout the free world. This serves powerfully the foreign policy interests of the United States.

Note.—At least 25 percent of the 12 schools' graduates each year are from abroad; a high proportion of U.S. public health faculty members are heavily engaged in international health work.

7. Graduate public health education is expensive because it is multidisciplinary in scope, involves a broad range of subjects and is directed at students basically trained in different fields and pursuing specialized interests in preparation for specific kinds of public health work.

Note.—The ratio of faculty members is higher than in most educational institutions in order to cover the wide spectrum of subjects, to teach small groups by seminar method and to provide individual counseling and tutoring.

In effect, the Congress has subscribed to the concept that the graduate schools of public health are as indispensable to the Nation's health as the military service academies at West Point, Annapolis, and Colorado Springs are to the Nation's defense.

It follows that, from the congressional viewpoint, substantial support of comprehensive graduate public health education in schools of public health is not a subsidy for education per se, but rather a partial fulfillment of the Federal Government's obligation to safeguard the public health.

B. *The view of the schools.*—"These funds meet our needs more effectively than any other Federal teaching grants now available."

The above statement by a public health school dean expresses the attitude of the 12 schools and their parent universities toward the Hill-Rhodes formula grants for unrestricted support of comprehensive graduate training of public health personnel.

Helpful as they are, categorical training and project grants are limited in scope and tend to create imbalances in the total program which can only be stabilized by applying flexible funds where and when they are needed.

The immediate effect of Hill-Rhodes grants when first made available in 1959–60 was to:

Fill vacant teaching positions or create new ones in essential fields not being adequately taught, or entirely absent from the curriculum for lack of funds.

Among the fields then cited by the schools as needful of expansion or new development to meet current health problems were:

- Biostatistics.
- Community mental health.
- Dental health.
- Occupational and industrial health.
- Radiological health (atomic waste disposal and other means of protecting the public from radioactivity).
- Maternal and child health.
- Accident prevention (in air and ground transportation, industry, and homes).
- Public health nursing.
- Environmental hygiene:
  - Air pollution.
  - Food protection.
  - Stream pollution.
  - Housing.
  - Biology of sanitation.
- Medical care and medical economics.
- Chronic disease and geriatrics.
- New aspects of virology.
- Nutrition.
- Public health administration.
- Community health planning.
- Health education.
- Animal diseases important to man.
- Continuing education and inservice training.

The continuing effect of the Hill-Rhodes formula grants has been to:

Meet additional needs for new faculty and program as they arose.

Supplement other resources so as to recruit and hold faculty of high caliber and to elevate and maintain the quality of instruction.

Initiate programs in high priority areas, pending the availability of other forms of support.

To pick up where other support of essential programs has left off; that is, to replace temporary funds which have terminated and thus continue an activity until it can be refinanced from other sources.

Permit the appointment of an educator to develop a new program that will eventually attract other forms of support, rather than for him to be committed in advance to a prescribed course of action as would be the case if supported initially by a project grant.

To help provide equipment, rented space, and administrative services related to teaching, including administration of traineeships.

To meet unexpected, unbudgeted needs in midyear and solve fiscal dilemmas that confront directors of an overall teaching effort.

To make possible cooperative teaching programs with public and private agencies, including continuation teaching of inservice personnel, short-term courses, and institutes.

The vital importance of Hill-Rhodes formula grants is indicated in the following extracts from recent statements by deans of State-sponsored and private schools of public health:

"* * * unrestricted or relatively unrestricted funds * * * are best designed to allow a 'whole school' to move smoothly on its charted course and toward the achievement of those goals best suited to its particular genius.

"In any educational institution there are occasional emergencies for which it is impossible to plan; special unforeseen opportunities upon which it is impossible to capitalize unless uncommitted funds are available; fledgling or other less self-reliant departments or activities of great importance to the development of the school which are not in a position to compete for funds essential to their proper sustenance and growth; and areas of high priority which await employment of an appropriate educator before funds can be attracted to allow the initiation of a strong activity. Such fiscal dilemmas can only be solved by the availability of unrestricted funds. * * *

"In summary, it is obvious to us that, of the Federal support received for the teaching activities of the school, the formula grants are, on a dollar-for-dollar basis, the most useful to the school and do the most to allow the achievement of the overall goals not only of the school but, it is firmly believed, of the Federal Government."

"The school of public health of the university of ——— could not function without the Hill-Rhodes formula grant * * *. These types of support (project and formula grants) are complementary and not competitive * * *. The formula grant has enabled us to initiate * * * in the area of general operations, only the formula grant suffices * * * the increased restrictions of project grants * * * make this uncategorized (formula) general purpose support absolutely essential."

"The feature of the Rhodes formula grant, which has been most helpful in contrast with other grants, is its flexibility, allowing its use to correct imbalances and restore equilibrium in teaching programs. It has been possible to give broad support to all of the school's fundamental teaching program and attendant needs while giving support in depth to certain particularly needy areas * * *. At the present time, some 80 percent of the formula grant budget is committed to continuing positions but the flexible character of the grant permits changing the individual positions as new sources of support are found."

"Currently, these funds are being used * * * to give stability to several programs of study through the mechanism of supplementing our own school resources * * *. None of these activities are supported exclusively by Hill-Rhodes formula funds, but the funds are essential to maintain these activities at their preesent modest level in the absence of funds from other outside sources * * *. Our needs could be better met if the larger proportion of our total grant funds were on a formula basis rather than a project grant basis * * *. If we had a choice between formula and project grants under the Hill-Rhodes Act, I would favor an expansion of the formula grant program but not to the exclusion of project grants."

"The Hill-Rhodes formula funds have been used * * * to reinforce instruction in certain areas and to bring in new kinds of faculty members in other areas * * *. It can be categorically said that it would have been very difficult, if not impossible, to have found the funds on a stable basis to do all of the above."

USE OF ADDITIONAL FUNDS

Mr. Fogarty. His letter includes detailed statements by the deans of all 12 schools of public health as to how they would use an additional $600,000 in formula funds, if appropriated, to fill vacant faculty positions, introduce courses not now being taught, and strengthen and improve others.

Now, you have seen this list of unmet needs and I ask you, first whether they are important public health training needs that should be met, and secondly, whether you do not agree that this plugging of gaps in the various schools' teaching programs is the kind of need that, as far as Federal assistance is concerned, can only be met by formula funds which can be used unrestrictedly by the schools where and when they are needed most for teaching?

Dr. TERRY. Certainly, this is an important source of support. As you have said, it is different than most other sources of support for our schools of public health inasmuch as they do have the freedom to use it to establish new courses, add faculty, and other necessary expenses for operating the school.

I think in terms of the importance of the need, certainly it is important. It is a question of weighing this need against other things where we also need money, Mr. Fogarty.

Mr. FOGARTY. Finally, I am sure you are aware that the No. 1 recomemndation of the National Conference on Public Health Training, which you convened, was that Federal support of traineeships, project grants, and formula grants be continued and expanded. Also, you know that the fifth recommendation specifically proposed a doubling of the formula grants authorization to $5 million with step increases in the annual appropriations beginning in fiscal 1965.

Dr. TERRY. That is correct.

Mr. FOGARTY. Now, in view of the importance of the schools of public health to the country and the world and in view of the conference recommendations, the specific and impressive statements of needs by the 12 schools, and in view of the economical nature of the formula grants program, from the standpoint of Federal administrative costs, do you not think it would be in the national interest to appropriate the full authorization for formula grants for fiscal 1965?

Dr. TERRY. I have no doubt, Mr. Chairman, but the schools could use the funds and use them well. It would certainly strengthen——

Mr. FOGARTY. This legislation you know was passed by unanimous vote in both Houses, then extended and expanded.

Dr. TERRY. Yes, sir.

Mr. FOGARTY. And I am sure it is going to be done again, it is going to go up to $5 million whether you or the administration likes it or not.

Dr. TERRY. Frankly, I would be happy to see more support for training in the field of public health.

Mr. FOGARTY. I cannot understand why this small amount $2.5 million cannot be appropriated this year instead of $1.9 million. This is not economy as far as I am concerned; this is false economy the way I look at it.

ARTIFICIAL KIDNEY CENTER

We talked in the past 2 or 3 years about the need for artificial kidney centers. Has anything been done about this?

Mr. TERRY. We have supported the research in at least one of these centers for the development of the basis of the center. I am referring specifically now to the one in Seattle.

In addition to that, we have given support for the demonstration of the procedure and the training of individuals in the technique, so that in effect we have given them support outside of basic research support to this particular center.

We have other applications under consideration at the present moment, but we have felt that our basic responsibility in the Public Health Service, in relation to this particular development, was to promote support of additional research in this direction, and in addition to that, if and until we know other methods of combating this problem, to assist in a demonstration of the technique and training of individuals in this technique, but not just the routine operation of the center in terms of providing medical care.

Mr. Fogarty. But lives can be saved with the knowledge you have now, according to this operation in Seattle.

Dr. Terry. Lives can be prolonged in many instances, yes.

Mr. Fogarty. Prolonged; they are not actually extended for what would be a normal lifespan?

Dr. Terry. The procedure is merely a matter of removing impurities that exist that the kidneys do not remove because they are insufficient or not adequate to the job.

In general, in the patients treated in these centers and talked about, are patients with permanent damage to the kidneys. Now it may be that one may be kept alive for a period of time and that a kidney transplant be done which might in effect save the person's life. Basically this is a method of keeping the person alive and in as good condition as possible, and many of them, they have been able to keep them not only alive but vocationally, occupationally, active.

Mr. Fogarty. It is very expensive though.

Dr. Terry. Yes, sir.

Mr. Fogarty. What do you care about expense if it is going to save lives?

I thought we ought to be doing more than we are doing in this area.

Dr. Terry. I think we are doing quite a bit there, and I would hope——

Mr. Fogarty. Are you satisfied with what we are doing in this area?

Dr. Terry. Yes, sir, I am. We have other proposals under consideration; but in terms of the things we have reviewed thus far, I am satisfied in terms of what decisions have been made.

I think that the great hope in this direction is not in this particular technique, but in terms of developing other methods of treating these patients with renal failure.

REPORT ON SMOKING

Mr. Fogarty. Since your report on smoking, many proposals to reduce this obvious health hazard have been made and several bills have been introduced in Congress.

What do you think Congress ought to do?

Dr. Terry. Mr. Chairman, we have been recently reviewing our legislative authorization in relation to this problem as well as discussions with other segments of the Government. I am not in a position to speak for the other agencies and parties in the Government.

Insofar as I can envision at the present time, the Public Health Service does not need additional legislation. I think that we have all of the authority we need to carry out the responsibilities which are appropriate to our mission.

Mr. FOGARTY. I read in the papers recently, about the time your report came out, that in England, a substantial program was started 2 years ago; it was found that there was a great reduction in the first 6 or 8 months. After the end of 2 years, they were smoking more than before.

Dr. TERRY. I am not sure they are smoking more per capita, but certainly the English experience was a disappointing one, where there was a precipitous drop in cigarette smoking by the population and then, over a period of a few months, gradually inching back up to close to the same level as before the report appeared.

Mr. FOGARTY. What about an educational program in high schools?

Dr. TERRY. This is one of the things that we think is of greatest importance. As I mentioned in other discussions of this——

(Discussion off the record.)

Mr. FOGARTY. Do you think some sort of educational program could——

Dr. TERRY. Yes; I think one of the things we must do is look upon this as not just the responsibility of the Public Health Service or of the Federal Government. It has to be looked upon, to my mind, as a national responsibility.

I think there is a lot that we can do; there is a lot that the voluntary health organization can do, and they have a great interest in it, many of them, such as the American Cancer Society and the American Heart Association, the American Association of Public Health, and so forth. I think there is much that can be done by PTA groups and civic groups and related groups in the community. There is much that can be done by the individual community health department and by the individual physician.

Frankly, I think this is going to take action on all of these fronts in order for it to be effective.

In that respect, we recently had conferences with several of the voluntary health organizations who are quite interested in the subject and we expect to work with them in coordinating and correlating our activities.

Also we are interested in having the medical profession, the practicing physician, as well informed as possible, and because of that, we felt that it was important for us to send a copy of this report to every physician in the United States.

Mr. FOGARTY. I thought it was an excellent report.

Dr. TERRY. I think it is an excellent report, sir.

Mr. FOGARTY. There has been a great demand for it too, hasn't there?

Dr. TERRY. Yes; it has been literally a bestseller.

FISCAL CONTROLS ON RESEARCH GRANTS

Mr. FOGARTY. Can you bring us up to date and tell us what you have done to tighten up your fiscal controls on research grants?

Dr. TERRY. Yes; I think you remember, Mr. Chairman, that some time ago we began on the problem of reviewing and seeing what actions could be taken in order to shore up, so to speak, our management, and to assist our grantees and grantee institutions, in carrying out their responsibility.

As a result of this, and after careful study, the first real step that was taken was the drawing up of a manual which is a guideline for the institutions and individuals receiving grants.

As a part of this, we have continued—not just with the publication of the initial issue, but we have continued to study the matter and have just now issued the second edition, so to speak, of our grants manual.

In addition to that, we have spent a great deal of time on the part of our staff in working with responsible individuals from grantee institutions who come into the NIH for orientation and brief periods of education as well as having our staff meet with representative groups from grantee institutions in regional areas, talking about the problem.

In this way, I think that we have truly created at least a beginning of a better appreciation of the responsibility of the individual institution and appreciation of the fact that they must build up their staff so that they can carry out their grant administration responsibilities more clearly. We have carried out several other programs.

Mr. Fogarty. You may put them all in the record at this point.

(The documents referred to follow:)

Improvement of Grant Management

1. *Distribution of grants management functions.*—In May 1963, the Surgeon General issued to the Public Health Service bureau chiefs a formal document defining (1) those research grants management functions to be performed on a decentralized basis by PHS institutes and program divisions and (2) those to be performed on a centralized, PHS-wide basis by the Division of Research Grants. This marked the first formal delineation of the levels at which grants management functions would be performed and constituted a significant decentralization of certain of these functions to the institutes and program divisions. A formal report of progress was submitted to the Surgeon General on June 28 by each of the bureaus, and there have been significant additions to, and strengthening of, the grants management staff both within the Division of Research Grants and PHS institutes and program divisions.

2. *The establishment and delineation of the functions of the Grants Policy Office, Office of the Surgeon General.*—It was previously noted before the Appropriations Committee that the Grants Policy Office had been established in the Office of the Surgeon General with Dr. Ernest Allen recruited from NIH as the grants policy officer. Since then, a formal study has been conducted by the executive officers of the PHS and NIH which clearly delineates the functions of that Office and describes its relationship to the PHS bureaus. Also, since the last hearings, there has been a significant strengthening in the staff of this Office.

3. *Codification of grants policies and procedures.*—Previously reported was the first issuance of a research grants manual. Since that time this manual has been significantly modified and the second edition has just been distributed to grantees. The revised provisions will go into effect April 1, 1964. Also, a new manual covering all the training grants of the PHS is in final draft and will be issued by the beginning of fiscal year 1965.

4. *Fellowship stipend study.*—From February to June 1963, the PHS conducted an extensive study of the level of stipends and the relationship between training grants and fellowships. This study was conducted by 12 teams of PHS employees who visited some 34 grantee institutions, principally graduate schools and medical schools, conducting interviews based on a uniform questionnaire. The results of this study have provided very useful information for the section on stipends in the new training grants manual.

5. *Establishment of local pilot grants office.*—On January 22, 1964, the Surgeon General approved a plan for establishing a research grants office in Boston, Mass. However, the long-range budgeting implications of such a step are currently being examined before a final decision is made to move forward with the plan. This office would act as a pilot installation for determining whether or not research grants administration can be effectively carried out on a geographi-

cally dispersed basis. The functions and staffing of such an office were determined through a study conducted from July to October 1963 by a five-member study team made up of PHS employees. This team conducted extensive interviews wtih all PHS granting organizations and with a large sampling of grantee institutions in the Boston area.

6. *Revision of certain administrative procedures involving grantee institutions.*—The issuance of the first edition of the grants manual established a number of conditions requiring PHS approvals which formerly could be made by the grantee institution. These included such matters as transferring grant funds into budget categories such as travel and the purchasing of equipment. In administering these provisions, it has become evident that the grantee institution, rather than the PHS, may be the more appropriate site for making these individual decisions. It will be essential, however, that the grantee institution make these decisions through formal review mechanisms within the grantee institution and within documented procedures which have been described by the grantee institution and approved by the PHS. A report of the first phase in a special study of the means to effect these changes has been completed by the NIH and a second phase study will commence shortly to test the feasibility of the proposal among a sampling of grantee institutions.

Mr. FOGARTY. The reason I asked these questions, I have had many complaints in the last 6 months about the tightening up of these controls from institutions all over the country. I had dinner with the president of a university last night and, well, the remarks just were not complimentary. They claim you are sending in more people to check and audit—almost policing them. Many of these people I have talked to think you have gone too far.

Dr. TERRY. Mr. Chairman, if you want to know, my frank belief is that the institutions were not discharging their fiscal management responsibilities as well as they should.

I do not say they were entirely at fault, we were too; but I think that the best solution to this problem is for them to build up responsible administration within their institutions around certain guidelines that we set.

They should be their own policemen. But I think when they are spending the taxpayers' funds they have to realize that they have a responsibility of fiscal accounting for it.

Now, we have no desire to become policemen in terms of these funds but we do have a definite responsibility to see that these funds are spent in the manner in which the Congress appropriated them and in the manner in which we allocated them.

Mr. FOGARTY. Some of them are coming in to these hearings after the completion of the hearings with Government people, and I assume they are going to disagree with what you said from what I have heard already.

Dr. TERRY. Certainly there are some that will disagree. At the same time, I do not feel that our actions thus far have been harmful to the research effort in this country. And certainly the last thing that we want in the Public Health Service is for them to be harmful.

Mr. FOGARTY. Most of them I have talked to do not agree with that statement at this stage.

Dr. TERRY. Well, there are a lot of people, researchers, that would like for you to have a barrel of gold coins, give them a shovel, and let them come up and dip out what they need and not give an accounting for it at all.

Unfortunately when we are spending and being responsible for the expenditure of the taxpayers' funds, we do not feel we can operate quite that way. I think quite seriously, though——

(Discussion off the record.)

Mr. FOGARTY. We will place in the record a resolution on the subject adopted by the American Public Health Association Governing Council, last November.

(The resolution referred to follows:)

ADMINISTRATION OF FEDERAL RESEARCH FUNDS

The research programs authorized by the Congress and supported with increasing appropriations over the years have been of critical importance in advancing scientific medicine and public health. Progress in the sciences fundamental to medicine and public health, as well as applications of practical importance have resulted. These advances will maintain the leading role of the United States in medicine and will improve the health of our Nation if this support continues and conditions prevail which will foster research.

Recently investigations of the administration of federally supported research, including that of the Public Health Service, have been made and others are underway by the Congress. The American Public Health Association fully supports the need for efficient administration and understands the responsibility of the scientific community to account for its stewardship of public funds. But we are particularly anxious that the Congress appreciate the value of freedom of inquiry and flexibility in following unanticipated leads which make research productive and creates incentive for personal and institutional initiative. We are concerned that administrative controls with cumbersome procedures and excessive reporting might well destroy that climate.

The American Public Health Association commends the Congress for its continuing support of research and it commends the Public Health Service for its wisdom and probity in the administration of research funds, particularly through the research grant. We urge the Congress to regard with concern the effects of any measures that might result in hampering the national research effort through regulations and controls beyond those necessary to provide accountability for Federal research funds.

Adopted by the APHA Governing Council, November 13, 1963.

Mr. FOGARTY. Is there anything else you want to say, Dr. Terry?

Dr. TERRY. No, sir; there is nothing else.

Mr. FOGARTY. Thank you very much.

EXPENDITURES FOR MEDICAL RESEARCH

We will place in the record the statements on expenditures for medical research and on grants to States.

(The statements referred to follow:)

PUBLIC HEALTH SERVICE

Federal expenditures for performance of medical and health-related research, fiscal years 1962, 1963, 1964 [1]

[Thousands of dollars]

Agency	1962 actual			1963 actual			1964 estimate		
	Total	Budgeted	Directly related	Total	Budgeted	Directly related	Total	Budgeted	Directly related
Total	782,092	642,836	139,256	923,646	745,579	178,067	1,084,329	879,855	204,474
Atomic Energy Commission	64,706	6,930	57,776	74,720	7,621	67,099	78,282	7,674	70,608
Federal Aviation Agency	1,785	1,785	----	2,926	2,926	----	3,000	3,000	----
National Aeronautics and Space Administration	13,600	----	13,600	34,184	----	34,184	49,800	----	49,800
National Science Foundation	15,300	----	15,300	21,128	----	21,128	21,212	----	21,212
Tennessee Valley Authority	214	----	214	229	----	229	310	----	310
Veterans' Administration	26,820	26,820	----	29,836	29,836	----	34,251	34,251	----
Department of Agriculture	21,686	----	21,686	23,328	----	23,328	23,486	----	23,486
Department of Commerce	335	31	305	345	38	307	369	41	328
Department of Defense	73,685	44,212	29,473	89,178	58,928	30,250	102,769	65,709	37,060
Department of Health, Education, and Welfare	562,058	562,058	----	645,144	645,144	----	767,200	767,200	----
Public Health Service	(546,838)	(546,838)	----	(626,795)	(626,795)	----	(738,176)	(738,176)	----
National Institutes of Health	(495,391)	(495,391)	----	(569,805)	(569,805)	----	(661,792)	(661,792)	----
Other	(15,220)	(15,220)	----	(18,349)	(18,349)	----	(29,024)	(29,024)	----
Department of the Interior	903	----	903	1,542	----	1,542	1,670	----	1,670
Department of State	1,000	1,000	----	1,086	1,086	----	1,980	1,980	----

[1] Coverage is limited to conduct and support of medical and health-related research. Support of other activities such as training or capital outlays for research facilities is not now included in this series; plans are underway to expand the scope of the series to include these activities.

NOTE ON COVERAGE AND SOURCES.—The statistics shown above—actual obligations for fiscal years 1962 and 1963 and estimates for 1964—were reported by Federal agencies to NIH following a review by each agency of its research activities to show explicitly obligations for all medical and health-related research in all fields of science (biological, medical, agricultural, psychological, physical, mathematical, engineering, social) distinguishing between (1) funds separately budgeted for medical and health-related research, specifically identified, programed and justified as such, and supported for the purpose of improving human health (all the research activities of agencies or subagencies whose sole mission is advancement of human health through research may thus be included); and (2) funds for research directly related to health in terms of substance or probable application, but which derive from funds budgeted, justified or supported for purposes other than medical or health objectives (for example, the general support of science, the promotion of agriculture, the achievement of the Nation's strategic objectives in outer space). As the table shows, almost 20 percent of the total represents this latter category of research directly related to health but supported for other purposes. The above data update and continue the time series presented in "Federal Support for Medical and Health-Related Research, 1947–64," Resources for Medical Research, report No. 4, August 1963, PHS publication No. 1068. The statistics for 1947–61 presented in this report, together with the revised data shown above for 1962–64 constitute the definitive time series on Federal support for the performance of medical and health-related research in the postwar period. A more comprehensive analysis of recent trends will be published in the Resources for Medical Research series.

Source: Resources Analysis Branch, Office of Program Planning, NIH, January 1964

National expenditures for performance of medical and health-related research by source of funds, fiscal years, 1960–64 [1]

[In millions of dollars]

Source of funds	1960 actual	1961 actual	1962 estimate [2]	1963 estimate [2]	1964 estimate [2]
Total	$845	$1,045	$1,290	$1,470	$1,675
Government	471	604	819	969	1,134
Federal	448	574	782	924	1,084
State and local	23	30	37	45	50
Industry	253	312	336	360	395
Private support	121	129	135	141	146
Foundations and health agencies	76	77	78	79	80
Other private contributions	12	15	18	21	23
Endowment	19	19	19	19	19
Institutions' own funds	14	18	20	22	24

[1] Coverage is limited to conduct and support of medical and health-related research. Support of other activities such as research training or capital outlays for research facilities is not included in this series.

[2] Data on Federal obligations are available at the beginning of the fiscal year. Firm data on non-Federal expenditures cannot be obtained until after the end of the fiscal year. Therefore the estimates for 1963 and 1964 may overstate the Federal share. These data are subject to revision pending analysis of research expenditures by hospitals, State governments, medical schools, universities, and research institutes.

NOTE.—The estimates shown above reflect significant improvements in the scope and coverage of national expenditures for medical and health-related research. A series extending back to 1947 consistent with the data shown above is available, at this time, only for the Federal sector. For the other major sources of funds, data for the earlier period comparable with the estimates for current years will be derived as soon as possible, thus providing a national time-series consistent in scope and coverage for the entire postwar period.

The significant revisions are as follows: In the Government sector, both the coverage and method of measuring Federal agency obligations for medical and health-related research have been improved to reflect research, in all fields of science, that is medically related, distinguishing between research obligations budgeted and justified for health purposes, from obligations for research directly related to human health but supported for other purposes; the data for Federal agencies were obtained by the National Institutes of Health through surveys conducted by that agency at the request of the Bureau of the Budget. (An analysis of the data and the definitive time series for the 1947–61 period are presented in "Federal Support for Medical and Health-Related Research, 1947–64," "Resources for Medical Research," Report No. 4, August 1963, PHS Publication No.1068.) Support for medical research provided by State and local governments now includes appropriations made directly to educational institutions and hospitals for the performance of medical and health-related research.

In the industry sector, coverage has been expanded to include, in addition to the research expenditures of the pharmaceutical industry, comparable data for the medical supply industry provided by the Bureau of the Census and the National Science Foundation, and data for the medical electronics industry obtained by NIH. In the nonindustrial private sector a comprehensive survey was conducted, through the cooperation of the National Science Foundation, to obtain benchmark data on the support of private foundations for medical and health-related research for 1960. (See "Foundation Expenditures for Medical and Health-Related Research and Education, 1960," "Resources for Medical Research," Report No. 2, November 1962, PHS Publication No. 983.) The estimates for the 1961–64 period for this sector are derived through continuing study of reports from both sources of funds and the performers of research.

Source: Resources Analysis Branch Office of Program Planning, NIH, January 1964.

GRANTS TO STATES

PUBLIC HEALTH SERVICE—GRANTS TO STATES

Obligations

[In thousands]

Appropriation title (current) and program	1961	1962	1963	Estimated, 1964	Estimated, 1965
Chronic diseases and health of the aged:					
Cancer control programs	$3,314	$3.389	$3,385	$3,500	$3,500
Heart disease control programs	3,300	4,598	6,133	7,000	7,000
Other chronic disease control programs	0	4,859	11.383	13,000	11,750
Community health practice and research: General health	16,755	14,920	14,910	14,000	10,000
Control of tuberculosis: Formula	3,982	3,499	3,236	2,900	0
Radiological health: State program development	0	0	1,394	2.000	2,500
Water supply and water pollution control: Control programs	2,892	4,593	4.722	5,000	5,000
Mental health activities: Control programs	5,942	6,622	10,814	10,950	6,750
Total	36,185	42,480	55,977	58,350	46,500

Allocations

[In thousands]

Appropriation title (current) and program	1961	1962	1963	Estimated, 1964	Estimated, 1965
Hospital construction activities	$185,000	$209.728	$220,000	$220,000	[1] $10,000
Grants for waste treatment works construction	46,101	80,000	90,000	100,000	100,000
Construction of community mental health centers	0	0	0	0	35,000
Total	231,101	289,728	310,000	320,000	145,000

[1] Legislation expires June 30, 1964. New legislation will be recommended.

PUBLIC HEALTH SERVICE—PROJECT GRANTS

Obligations

[In thousands]

Appropriation title (current) and program	1961	1962	1963	Estimated, 1964	Estimated, 1965
Chronic diseases and health of the aged:					
Cancer projects	$1,695	$3,013	$4,538	$4,850	$5,273
Neurological and sensory disease projects	0	892	2,338	2,950	3,450
Other chronic disease projects	0	2,294	5,598	7,000	7,000
Mental retardation planning grants	0	0	0	2,200	0
Communicable disease activities: Community immunization	0	0	244	18,661	8,000
Community health practice and research: Migrant health services	0	0	750	1,500	2,500
Control of tuberculosis: Projects	0	496	1,242	1,606	4,000
Control of venereal diseases: Projects	2,379	2,575	4,327	5,895	5,895
Air pollution:					
Control programs	0	0	0	[1] 2,000	4,400
Survey and demonstration	0	13	0	0	765
Water supply and water pollution control: Demonstrations	0	300	500	625	625
Hospitals and medical care: Hawaii (leprosy)	1,200	1,200	1,200	1,200	1,200
Total	5,274	10,783	20,737	48,487	43,108

[1] Proposed supplemental.

Report on Research in Community Health

RESEARCH IN COMMUNITY HEALTH

A report to the Subcommittee on Departments of Labor and Health, Education, and Welfare, and Related Agencies of the Committee on Appropriations, U.S. House of Representatives

Bureau of State Services-Community Health, U.S. Public Health Service,
Department of Health, Education, and Welfare

SUMMARY AND OVERVIEW

The principal challenge before the health professions and agencies in American communities is the development of comprehensive health services which provide for the American people a level of health care commensurate with the Nation's scientific capabilities. The mission of the Bureau of State Services (Community Health) is to encourage and foster this process actively through the advancement of a concept of community health in which public and private resources together deliver to all segments of the population a comprehensive range of preventive, curative, and restorative health services in the most efficient and effective manner feasible, with full utilization of relevant scientific advances.

The furtherance of this mission embraces a wide range of programs and activities directed toward the major challenges confronting public health and medicine in the community setting today:

Effective and efficient organization and delivery of health services.

The qualitative and quantative enlargement and utilization of health manpower and facilities.

The issues of health economics and financing.

The control of acute and chronic diseases and accidental injuries.

The problems of motivations and attitudes, individual and community.

In general, programs directed toward these major areas of need involve providing leadership and guidance, professional and technical assistance, financial aid, training, and demonstration for the health practitioners and institutions which bear the final responsibility for community health.

Important and meaningful as these forms of direct and cooperative Federal assistance may be, they are not sufficient. Achieving a satisfactory level of comprehensive health care for the citizenry of this Nation in terms of the challenges presented above involves overcoming major obstacles which require deliberate systematic scientific attack. For this purpose the Bureau of State Services (Community Health) has undertaken a major enlargement of the research associated with its several substantive programs.

These research activities are directed toward the solution of specific problems confronting program advancement, the development of the practical methods, techniques, and devices required to secure the most effective use of current scientific advances in the community setting, and the advancement of additional scientific knowledge in the particular subject matter areas of community health, such as organization, economics, resources, motivation, and attitudes. Primarily the research activities of the Bureau of State Services (Community Health) are centered on the technology of health care and the phenomena of community health action.

Examples will help to further sharpen the particular concern of BSS(CH) research efforts. Thus, a laboratory discovery my open the way for a new screening technique to detect a chronic disease in a curable state. But before its potential is fully realized—before those who have the disease are found and started on their way to a cure—the technique must often be streamlined and refined. If it is to gain wide acceptance, it must be tailored to fit conveniently into a standard physical examination, or adapted to the conditions of an outpatient clinic. If supporting laboratory work is required, the procedures must be standardized and simplified to fit existing capabilities. If the technique is to be used efficiently, prior knowledge of the population groups most likely to harbor the disease will permit a sharpshooting approach.

Problems like these are one special province of research in community health. There are many others. Community health research can lead to more effective ways of recruiting, training, and utilizing health manpower; to improved design and more efficient use of health facilities; to more productive patterns of organization and cooperation among the many services which make up a community's health resources. It can help to define obstacles and barriers to medical care—people's beliefs about sickness and health, their feelings about the professions and institutions that serve them, the relationships between service, cost, and ability to pay.

The need for increased efforts directed toward the solution of these kinds of problems was recognized by the Congress and the Surgeon General and resulted in the BSS(CH) request in its fiscal year 1964 budget for funds to undertake a program of research grants. Certain of the research activities to be supported by these funds had been previously financed through NIH programs. Thus the development of this program has involved certain readjustments in the program limits of these two PHS bureaus. The distinction between community health research and the research programs of the National Institutes of Health, however, are in the main, clear and distinct. The differences are of the following nature:

1. The prime responsibility of the BSS(CH) is to further effective community health services. Thus in BSS(CH) programs, research is undertaken as a means to assist in the achievement of an optimum level of health services. The prime responsibility of NIH is to further research in the solution of disease problems and the advancement of biomedical knowledge. Thus at NIH research is pursued as an end—the basic function of the organization.

2. The center of scientific interest and concern in BSS(CH) is the community: the advancement of comprehensive health services therein, the development of additional knowledge concerning its health characteristics, the improvement of methods of service, the provision and organization of facilities and professional personnel, and the adequate financing of services. The center of NIH concern is the human organism in health and disease: the understading of its nature, the achieving of effective means of diagnosis, treatment, and prevention of ill health and the advancement of the underlying biomedical, behavioral, and related sciences. In this approach the community is of interest only if it is a determinant factor in disease or if it must be studied through epidemiological methods to clarify disease causation and etiology.

3. Through NIH research programs the PHS seeks to achieve for the Nation the highest degree of scientific capability in understanding, treating, and controlling disease. Through the research programs of the BSS(CH) the PHS seeks to solve scientific problems necessary to the delivery of health services to the community.

Thus the missions of the two bureaus are complementary: BSS (CH) looks to NIH for the advancement of knowledge concerning the nature of disease and the means of its treatment and prevention—while NIH looks to BSS for the application of such findings.

The programs of BSS (CH) also draw upon the scientific and technical capabilities of the National Center for Health Statistics for basic health demography and vital statistics and upon the National Library of Medicine as the major resources for medical literature and as an instrument of health communication. Overall coordination of these broad and complex research programs is achieved through the Office of the Surgeon General and its framework of staff offices. In these areas the basic definition of program responsibilities and guidelines are determined. On an operating basis these program guidelines are administered through the PHS framework for grant administration which includes the Division of Research Grants, the grants policy officer, and the Interbureau Advisory Committee for Extramural programs.

The horizons of community health research are wide, and the field relatively untouched. Yet enough pioneering work is underway to indicate that purposeful research can yield practical, applicable results. The new impetus to research in community health, provided by the research grant authority newly vested in all the community health divisions, will result ultimately in better health protection and care for the American people.

The report which follows describes in general terms the shape and direction of our community health research effort as presently envisioned. The first chapter is devoted to the problems and challenges of providing the best in modern medical care for a changing, growing nation, and seeks to define the appropriate mission of the community health programs of the Public Health Service within this national framework. Chapter II outlines in some detail, with illustrative examples, some of the broad fields of investigation which comprise community health research. Chapter III describes the mechanisms and procedures established by the Public Health Service to eliminate overlapping of interests among its various research programs.

Finally, the appendix lists in tabular form certain specific obstacles to the delivery of preventive, curative and restorative services and specific research problems related to these obstacles as seen at the present time. These tables are intended to be suggestive rather than exhaustive and in certain areas encompass both NIH and BSS (CH) interests. It is our hope that this listing will convey a picture of research efforts that are urgently needed and rich in promise and be illustrative of the respective roles of the two bureaus.

Chapter I. Community Health—Problems and Programs

A. THE GAP BETWEEN KNOWLEDGE AND ACTION

1. Dramatic advances in the development of health knowledge

Biology and medicine have participated in the spectacular advance of scientific knowledge which has characterized the 20th century. Universities, professional societies, voluntary health agencies, industry, and other public and private resourecs have all contributed to this advance. A major factor in the past two decades has been the growth of the national research effort in the biomedical sciences, stimulated and supported by the Public Health Service through the National Institutes of Health research grant program, which has had strong congressional support and leadership. As indicated in the summary and overview, within the Public Health Service, the National Institutes of Health have prime responsibility for furthering research in the solution of disease problems and the advancement of biomedical knowledge.

This biomedical research effort is continuing and accelerating. Already it has produced many lifesaving results—the "miracle drugs," improved therapies and procedures, new kinds of equipment and facilities. So swift is this progress across the entire range of biological science that every year produces an abundant harvest of discoveries, each capable of saving lives and restoring productivity to the disabled.

2. Lag in the application of health knowledge

However, the full benefit of these scientific advances has not been realized, because there has not been a comparable advance in our ability to apply new knowledge as it develops. It has been assumed that application automatically follows discovery. Unfortunately it does not. Indeed, the efficient delivery of health care requires scientific effort fully as imaginative, complex and dedicated as does the development of biomedical knowledge. Such an effort, on such a scale, has not been undertaken.

For many of those whose lives have been lengthened, medical progress poses a paradox. Breakthroughs in research are rich in promise. But breakdowns in application keep that promise unfulfilled. The gap between potential and performance—between what is known and what is used—is widening every day.

Clearly, the solution is not to reduce the scientific effort in biology and medicine—which is absolutely essential to our continuing progress—but rather to build a parallel program adapting to the field of application the creative scientific methodologies which have been so productive in the laboratory.

The application of scientific knowledge must start with identification of the community health problems and development of a clear, understandable statement of each problem as the basis of program development. This is an important community health research obligation.

Just as all scientific knowledge may not be relevant to community health, there are also gaps in the knowledge essential for development of effective programs which are to be applied. Some of these gaps may result from the failure to complete the succession of steps necessary to establish a practicable solution even where earlier progression of studies offered great promise. For example, health programs require research for the adapting of practicable, more sensitive early tests of glaucoma, heart disease, and other pathologies for use in the community, also, specific exploration of aspects of biomechanics and the nature of night blindness are essential for programs for reducing accidental injury and death of elderly pedestrians.

Another gap may require research for adaptation of knowledge developed in another field to the solution of community health problems. For example, medical examinations effective for improving driver licensing are needed as are studies leading to application of results of basic knowledge to such problems as highway hypnosis.

There is an obligation (*a*) clearly to identify community health problems and to conduct research on the conditions associated with them and on approaches to solving these community health problems; and (*b*) to undertake vigorous programs of research on methodologies of applying and administering these solutions.

3. The complex world of health service

The delivery of health service has been complicated in recent years by striking changes both within the health professions and in the society they seek to serve. Recognition of these factors is essential to an understanding of the community health challenge.

(*a*) *Socioeconomic changes.*—The population of the United States is increasing, with the most rapid growth occurring in the youngest and oldest population groups. Moreover, the population is also changing in location and economic structure. Suburban areas are growing rapidly. There are fewer people on the farm. The movement to the suburbs has chiefly involved people of middle and upper income classes, leaving the central city with a heavier concentration of people who are less self-sufficient economically and socially with respect to their needs.

In general, the population is becoming more prosperous and better educated. Expenditures for health purposes—both personal and public—have shown a sharp and continuing increase. The reasons for this include general inflationary trends, greater utilization of services, and advances in health science which have brought better care at higher cost. Significantly, however, there has been a steady increase in the percentage of the gross national product that is devoted to health expenditures. There has been a striking growth of health insurance, although more than one-fourth of the population still has no coverage and much existing coverage is partial and fragmentary.

These socioeconomic changes intensify the problems of application of health knowledge in several ways. The larger population increases the workload for all areas of health services. Moreover, the youngest and oldest age groups in which the greatest increases have occurred are the heaviest users of health services. Of special significance is the great increase in chronic and long-term illness among the population as more people live longer. Accidental disability and death—another byproduct of our times—also strikes hardest at the ends of the age spectrum—the youngest and oldest groups.

The geographical shifts complicate delivery of services. Most health manpower and facilities are located in the central cities, while a growing proportion of the population is dispersing to the suburbs. The factor of a more prosperous and better educated population tends to heighten the demand for services. In the economic area, the increasing costs of health services put a premium on developing more efficient organization and methods which will make high quality health services available at a cost economically compatible with family, community, and national resources.

(*b*) *Changes within the health field.*—Scientific advance has dictated a trend toward greater specialization in all health activities. This has been of great benefit in increasing the effectiveness of health service in each particular area. At the same time, specialization has contributed to fragmentation and lack of coordination among individual and institutional health resources because of the failure to complement specialization with the means for coordination. Therefore, community health services have frequently developed independently with no planned relationship of one system or set of resources to another.

The traditional separation of preventive, curative, and restorative health services poses a special problem in an era when chronic disease and long-term disability are the dominant health challenges. The patient with a chronic illness requires a continuity of care involving many types of service. At one stage of his illness he needs the full battery of services available at a general hospital. At other points he can be better served in a nursing home or chronic disease hospital; at still other times he can progress best toward recovery in his own home. During the course of treatment he may need the services of a great variety of health personnel—visiting nurses, physical, and occupational therapists, nutritionists, social workers, and others—all under coordinative medical direction. The health services in many communities are not organized to deliver this comprehensive pattern of service, though many have the separate elements.

While the number of specialists has increased, there has been a sharp decrease in the number of family-oriented physicians who view the patient as a whole person, and who are concerned with continuity of service. Under such circumstances there is danger that too many people may be treated fragmentarily, and too few receive a coordinated course of treatment.

Moreover, physicians and other health professionals face a staggering challenge in keeping abreast of developments within their own field. Only through planned programs of continuing education can they hope to absorb the knowledge they need in order to bring to their patients the best that is available in modern care.

4. The resulting gap and its costs

Thus many factors, both within and outside the health professions, conspire to produce a growing gap between the latest medical knowledge and the health services many people receive. The price we pay for this gap, year after year, is tragic both in terms of human suffering and in terms of national productivity; specifically:

An estimated 14 million children, 5 years and under, are not fully protected against polio, dyptheria, tetanus, and whooping cough, although effective vaccines are available;

Nearly 13,000 women who could continue to be productive members of the family and society are now dying each year of cancer of the cervix—a disease which can easily be detected and cured in its earliest stages;

An estimated 1 million people could be spared the threat of blindness due to glaucoma, another disease amenable to early detection and cure;

Rheumatic heart disease, which takes 20,000 lives per year and limits thousands more to a nonproductive semi-invalid state, can be drastically reduced by preventing recurrence of rheumatic fever in children;

Thousands of invalids who are victims of stroke, arthritis, and accidental disability could be taken from their beds and wheelchairs and restored to productivity or fuller ability to care for themselves by applying what is known about rehabilitative medicine;

Suffering and loss of countless man-hours of valuable time could be eliminated by preventing tooth decay through fluoridation of public water supplies, a proven public health measure which still has reached only one-third of our population;

Invalidism and blindness due to undiscovered diabetes could be minimized by applying universally that which is known about diagnosis and treatment;

Accidental deaths and disabilities, which claim many victims at the height of their productive capacity, could be sharply curtailed by applying existing knowledge.

Many more examples could be cited. And still more will come within the range of the possible as biological science continues its swift advance. The challenge before the health professions is to translate the potential into accomplished fact. Meeting this challenge will require a major coordinated effort by all the Nation's resources which are devoted to the delivery of health services.

In economic terms, this effort will repay rich dividends in prolonged productive lives and improved human capability. In humanitarian terms, it will lift the United States to a new high level of health and well-being.

But this effort will succeed only if it is based on solid scientific knowledge about the orientation, function, technical content, and organization of health services in our complex society. And such knowledge can be obtained only through research and experimentation which adapts the methodology of science to the human community. The stimulation and support of such a research effort is a major objective of the community health program of the Public Health Service.

B. THE MISSION OF COMMUNITY HEALTH PROGRAMS [a]

The mission of the community health program of the Public Health Service, within which the research effort will play a basic part, is to provide leadership, stimulation, and support in the coordinated development of preventive, curative, and restorative services for the general population. In carrying out this mission, the Service will work in partnership with the many public and private agencies and groups involved in the delivery of health services.

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[a] The Bureau of State Services has been divided into two groups, the environmental health programs and the community health programs. This report deals only with the research activity of the community health programs.

Improving the application of health knowledge involves concern for the following basic elements:

1. Improved knowledge and methods for health services.
2. Sufficient, properly trained health personnel.
3. Sufficient, high-standard community facilities.
4. Effective organization of personnel, resources and facilities.
5. Adequate financing of health service from all available sources.

It is fully recognized that concern for these elements is by no means the exclusive province of the Public Health Service. But there is a growing conviction that governmental asistance in a variety of forms can advance the total national effort without diminishing the importance of the other resources concerned.

1. *The fundamental elements*

These fundamental elements of health service—improved knowledge and methods, manpower, facilities, organization, and economics—constitute basic fibers that run through the entire fabric of the community health programs.

Improved knowledge, methods, and techniques.—Optimum community health services and patient care depend on the continuing improvement of knowledge, methods, techniques, and procedures for public health services and private medical practice. These are primarily created, tested, and evaluated through research. The extramural research grants program will greatly increase the capacity of the Bureau to carry out the major part of its mission.

Examples of the needs and opportunities for advancing the knowledge and the methods and techniques pertinent to community health are found throughout the seven tables in the appendix. These cover such areas as the use of epidemiology to ascertain community patterns and factors in communicable and chronic disease and accidents, in relation to the efficiency of large-scale preventive and control programs and the effects of psychological, social, and cultural factors on the individual and on health institutions. Methods and techniques essential in community health range over many subjects, sciences, and professional disciplines. They include laboratory procedures for identifying disease agents; methods for screening populations and techniques of clinical diagnosis for earlier and more positive detection of communicable and chronic diseases; and regimens for patient care involving special problems, such as emergency services, care of the chronically ill, the aged, mentally retarded, and migratory workers.

As new knowledge and methods become available for teaching and community practice, they supply new material with which to train manpower, plan and design facilities, and achieve more effective organization and financing of total services.

Manpower.—Manpower is one of our greatest concerns. The most modern of facilities and most efficiently planned and organized health program cannot be effective without an adequate supply of trained personnel. Moreover, the supply must be adequate in quality as well as quantity. Program concerns range widely from the administration of the loan program for medical, dental, and other health students under the newly passed Health Professions Educational Assistance Act to studies in the development of an effective curriculum for the training of accident prevention specialists for service with State and community health programs. Other examples of major activity in the health manpower field include a recent study of the Nation's nursing resources and needs by consultant groups to the Surgeon General[2] and two national conferences to evaluate the traineeship grant programs for professional public health and nursing personnel.[3]

Facilities.—Modern facilities, carefully planned to meet specific needs and coordinated with the related community resources, are required to achieve the optimal application of medical knowledge. Medical centers are becoming more important in the medical care field, requiring careful designing for the health needs of the community. A fundamental principle of construction grant programs is coordination on a regional or areawide basis. Practically every program is concerned with the needs, standards, and development of facilities in its particular area of concern.

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[2] Surgeon General's Consultant Group on Nursing. "Toward Quality in Nursing: Needs and Goals." PHS publication 992. U.S. Government Printing Office, Washington, D.C., 1963.

[3] Second National Conference on Public Health Training. Report to the Surgeon General. PHS publication 1087. U.S. Government Printing Office, Washington, D.C., 1963.

Organization.—The rational organization of health services has long been recognized as a major problem in the field. It has been pointed out that "more often than is supposed, the lack of satisfactory community services is a major barrier between the public and the receipt of comprehensive health care. Needed care cannot be provided without services organized at the community level so as to conserve professional skills and to make available the supplementary skills which professional personnel cannot provide. Hence a primary need in the future advancement of community health is the development of a satisfactory modus operandi whereby private and public resources together may deliver a full range of preventive, curative, and restorative services." [4]

Financing.—The cost and methods of financing of health services are matters of concern to every program in the community health field. Many of the most dramatic lifesaving discoveries—such as the artificial kidney machine and open heart surgery—can be applied only at an extremely high cost per patient. Health services are not truly available or accessible if their cost is beyond the range of individual, family, community, and national resources. Studies in health economics provide a basis for objective, scientific decisions in this complex and controversial area. Problems of special interest and urgency, such as drug cost, prepaid dental care, and health insurance utilization and coverage, need continuing attention. There is a growing conviction that if individuals and families are to have the full benefit of good quality personal health services without incurring heavy or catastrophic financial burdens, the costs must be distributed among large groups of people and over periods of time, so that the load does not fall upon the sick persons alone and at the time when illness reduces earning power.

2. The unifying concept—comprehensive health services

The unifying concept of the community health programs, which pulls together these fundamental elements, is characterized by the term "comprehensive health services." This concept implies the availability of a continuum of health services—preventive, curative, and restorative—to each individual when he needs them and where he needs them, without diminution of quality or disruption of delivery. It rests on the thesis that care in any one setting—the home, the private practitioner's office, the public clinic, the hospital or other institution—is not an isolated experience. The concept of comprehensive care suggests that each individual must be perceived and treated as a "whole man," and not as a sum of healthy or diseased parts.

In summary, comprehensive care is the most promising means of assuring the effective utilization of health knowledge. Comprehensive services would make available the best in modern health science for the benefit of the individual. Since prevention is an integral part of the concept, there is an implied emphasis on the positive, on the maintenance of optimum health status rather than on mere reaction to the invasion of disease or disability.

3. Programs of the community health divisions

The community health programs of the Public Health Service have responsibilities for assisting the development of the components essential to comprehensive and scientically up-to-date health services. Each Division deals with the elements of manpower, facilities, organization, and finance in its own field of special interest, and utilizes research in advancing its program objectives. An organization chart of the bureau and division organization is supplied in the appendix.

The Division of Accident Prevention seeks to prevent or minimize injuries and deaths from accidents—in the home, in traffic, and elsewhere—and gives special attention to the problem of poison control, especially as it affects children, and of emergency medical services.

The Division of Chronic Diseases supports several control programs directed toward specific illnesses—heart disease, cancer, various neurological and sensory diseases, diabetes and arthritis, and mental retardation—and conducts broad programs involving such activities as health maintenance, nutrition, prevention and disability, medical rehabilitation, multiple screening, and others.

The Communicable Disease Center, the principal arm of the Public Health Service for controlling infectious diseases, furnishes laboratory and other technical services to States, aids in the investigation of disease outbreaks, and conducts extensive training programs. It administers the Vaccination Assistance Act program as well as the major traditional programs in the control of venereal diseases and tuberculosis.

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[4] Final report of the Study Group on Mission and Organization of the Public Health Service. U.S. Government Printing Office, 1960, p. 30.

The Division of Community Health Services serves the health professions and communities through studies of such fields as health economics, communication of health information, and public health and medical care administration. Health manpower resources are a major field of interest, within which the Division has the new responsibility for administering the student loan program of the Health Professions Education Assistance Act. It also deals with the public health responsibilities in special problems, such as migratory workers, school health, and depressed areas.

The Division of Dental Public Health and Resources seeks to strengthen dental services through major participation in national programs related to dental manpower, facilities, and economics, and by stimulating the adoption of dental public health measures such as fluoridation of public water supplies.

The Division of Hospital and Medical Facilities was originally focused primarily on the need for meeting the deficiency in general hospital beds. Its scope has broadened to include community needs for long-term and chronic care facilities, nursing homes, mental care facilities, special facilities to serve the mentally retarded, rehabilitation facilities, and experimental construction to evaluate new approaches. The program for support of construction of educational facilities under the Health Professions Educational Assistance Act adds a new dimension to this activity.

The Division of Nursing works closely with universities, hospitals, health agencies, and professional nursing groups toward the goal of making the best possible nursing services available to all those who need them, through training, manpower development, and research.

Each division works closely with official State and local agencies, professional organizations, and voluntary groups on problems of mutual concern. Each has a vital interest in health communications—assuring the flow of important information to all those who can put it to use.

In carrying out their operations, all of the divisions make use of six major techniques or combinations of them. These include financial aid, professional and technical assistance, training and education, demonstrations, cooperation with other organizations, and research. While all divisions have had intramural research components for some time, and three divisions have had extramural programs for several years, the establishment of an extramural program for research in all the community health divisions provides a new capacity that is the subject of this report.

C. SUMMARY AND PROSPECT

Forces both within and outside the health field have combined to produce a gap between the volume of scientific knowledge available to the health professions and the community and the amount of that knowledge actually being used to save lives, prevent disability, and restore human productivity. The cost paid by the Nation for this imbalance is staggering, in both humanitarian and economic terms. A major national effort is required, first to bridge the gap and eventually to eliminate it.

The community health programs of the Public Health Service seek to carry out their mission, in partnership with their many allies in the health field, by fostering the availability of comprehensive health services, community by community and State by State. The fundamental elements upon which comprehensive services depend are improved knowledge and methods, manpower, facilities, organization of more effective services and financing.

Scientific research can be carried out in relation to each of these fundamental elements. Indeed, the national effort to deliver the best in modern health services can succeed only if scientific methodology, which has been so brilliantly successful in developing biological and medical knowledge, is employed imaginatively to the solution of problems related to the institutions and individuals which provide and receive health services. The nature of the research programs currently envisioned in this field is the subject of the succeeding chapters of this report.

Chapter II. Emerging Needs in Community Health Research

The solution of a research problem in a biological laboratory does not, of itself, save a life or restore a person's strength. Biological discovery is the first link in a long chain leading to better health. Without it, one end of the chain would not exist. But unless the succeeding links are forged, health is not advanced.

The succeeding links must include: (1) Improved knowledge and methods for health services; (2) professional and technical personnel whose previous training and ability equip them to put the research discovery to use; (3) necessary facilities and equipment; (4) effective communication of knowledge to the practitioner; (5) methods of bringing together those patients who need the new treatment with the practitioners equipped to perform it; (6) methods of making the service economically accessible to the patient; (7) methods which relate this new service to the rest of the patient's needs.

Each of these links is as complex, as fraught with obstacles, as the original laboratory research problem. Solid scientific information remains to be developed in relation to many of them. Yet a systematic understanding of all these processes—and of the many hidden subprocesses involved in this oversimplified description—would permit much more efficient delivery of the benefits of biomedical research to people.

Developing this scientific understanding is the challenge of community health research. Part of such research must begin—as did laboratory research a few years ago—at an uncomplicated level. More sophisticated discussions of the problems of community health research must wait on initial progress.

This chapter describes broad community health research areas and gives examples of representative research projects presently envisioned or in progress. The discussion covers five categories of problems in community health which constitute the main potential for research in the field. These research needs and projects are discussed to illustrate the nature and potential of community health research. The appendix materials give a more complete picture.

A. IMPROVEMENT OF KNOWLEDGE AND METHODS FOR HEALTH SERVICES

Historically, hospitals, clinics, and entire health programs have been created to meet specific disease problems. Voluntary and public health agencies have made great contributions here; and this will continue to be the effective focus of much research and experimentation in the provision of direct health services.

The time has passed when the mere extension of curative service to new groups was the prime necessity. It is possible now to set up new and bolder goals: (1) The eradication of a number of communicable diseases which have been tolerated or which, like venereal disease, are increasing after an initial decline; (2) the prevention or alleviation to a greater degree of the major chronic diseases such as coronary and cardiopulmonary diseases, cancer, stroke, renal and hypertensive disease, blindness due to certain causes, and diabetes and arthritis; (3) the more effective rehabilitation of those who have been disabled by accidents and disease; (4) the organization of special care to meet the needs of population groups such as the aged; (5) the more effective prevention of accidents; (6) more effective prevention of dental caries and periodontal diseases; and (7) at the same time to extend the great advances in definitive surgery and medicine to all those who need them.

It is also possible to work toward broader patterns of health service which combine preventive protection, acute care, and long-term care and rehabilitation to all individuals and families as needed, without service gaps and timelags, and with the full use of the required medical specialties, facilities, and finances.

To progress in this direction many types of scientific knowledge and scientifically developed and tested methods and procedures are needed. These include reliable and complete information on the extent of health problems; the ways in which diseases and accidents are propagated; methods of detecting individuals who have or may have diseases and accidents; exact knowledge of the technical components required for effective programs for prevention, control, and treatment of diseases and accidents; and knowledge of the optimum relationships among such components under operating conditions.

Epidemiological research must supply more information about the incidence and prevalence of accidental injury and of the chronic and communicable diseases and the health problems they entrain. This will indicate the extent of programs needed for effective prevention, control, and treatment, the geographic areas of greatest need, urban-rural differences, and socioeconomic characteristics of the populations of greatest need.

More must be discovered by research methods to indicate where preventive and control measures may intervene to eliminate or minimize disease and accidents and their consequences. Studies of chronic diseases are needed which explore the effects of social, cultural, and environmental factors in the solution of community health problems. The same types of studies need to be carried out for many kinds of accidental injury.

More accurate, simple, and less expensive tests and screening techniques for use in community health programs are needed for early discovery of individuals needing services. These require research.

Determining just which types and how much of personnel, facilities, techniques, equipment, and finances are required for optimum services is the true subject of organization research. This is a vastly neglected area. Service programs are usually put together by assembling traditional types and quantities of traditional components, which are permitted to function in traditional ways. Such methods or organization ignore the basic factors which make the difference between efficiency and inefficiency.

Examples.—Illustrating the development of better information on the extent of disease and accidents, one project is analyzing the medical records of more than 13,000 children living in the same area to determine how personal and environmental factors contribute to accidents which the children have had, and whether some children are accident prone.

Other research is investigating the prevalence rates of dental caries and related oral disease from a statewide sample of individuals, which will cover both urban and rural conditions, and which will look for connections between social and economic characteristics and the prevalence of dental diseases.

A number of studies are underway to develop and evaluate more sensitive tests to detect glaucoma, an important cause of blindness, in the earliest possible stages when successful treatment is still possible. Five centers in the United States are collaborating in this study using a common design to insure comparability of findings.

A project has been proposed to identify the set of behavioral patterns that determines acceptance or rejection of immunization procedures available against infectious diseases. This is an important area about which little is really understood and is all the more critical in view of the fact that the tools are generally available to do the job. For this effort, a number of county health departments will cooperate with an academic department of a large university operating a large-scale controlled program in representative areas of the same State. Positive results in this project would have significance for wide-scale application in prevention and control of communicable diseases.

Another important area is the testing and evaluation of drugs and treatment methods prior to their more general use. An example is research comparing the effectiveness of two different methods of administering penicillin in preventing recurrent rheumatic fever in children and adolescents.

The development of services for special groups having long-term complex health problems is attracting increased attention of investigators. One project is analyzing the organization of long-term hospital care for the chronically ill. A national sample of 214 long-term care programs representing rehabilitation and chronic units of hospitals, nursing homes, personal care homes, and mixed care units is being studied to determine significant differences among programs in terms of physical facilities, costs of operation, types of patients, types of services, and staffing.

B. RESOURCES FOR HEALTH SERVICES

The difficult task of marshaling resources of trained people, specially designed physical facilities, and finances in adequate amounts and channeling them to the right places at the right times requires effective planning. Such planning depends on the prior availability of factual information and tested ideas. Unfortunately we do not know enough about the number, distribution, and present use of our resources, nor do we have precise methods for changing the priorities to develop additional resources. Scientific information developed by research is essential to increase the basic capacity to produce and deliver higher quality resources in great numbers.

1. Improvement of the quality and quantity of professional manpower

More effective methods are needed to increase the number of persons entering training for the health professions, to give them better training for delivery of health services based upon scientific knowledge, to conduct more effective research, and to keep them informed of the latest technical developments after graduation. In pursuit of these goals, research branches in several directions.

The first step in manpower development is recruitment. We need to explore social and psychological factors which attract capable high school and college students to careers in the health professions. We need to define the intellectual and personal qualities which best suit individuals to meet the highly technical and highly personalized demands of careers in health service.

Next, there is a need to develop and test new methods for more rapid and accurate training of students in professional fundamentals. Existing educational methods, highly successful in other fields, may well be adaptable to health training.

The precise ways in which professionals dovetail their individual contributions as members of closely knit expert teams are little understood. The physician or nurse performs different functions in different health service settings—the acute treatment hospital, chronic hospital, nursing home, patient's home—and these roles need scientific definition. Greater understanding of the effects of using assistants and more specialized equipment on the performance and productivity of professionals should lead to greater economies, better service, and increased career opportunities.

We know that it is difficult to interest the student and hold the attention of the professional health worker in the chronic, aged, or degenerating patient, although much can be done for these patients. But there is little knowledge of ways to overcome the problem.

The needs for these types of research may be seen more vividly when combined in an example. While the example discusses the nursing profession, the same needs for scientific information are found in other health professions.

Example.—If nurses are not available, preventive programs and medical care have to be reduced or discontinued. The need for increasing the amount and improving the quality of nursing service was forcefully documented by the Surgeon General's Consultant Group on Nursing, which identified as major problem areas (1) supply of nurses, (2) quality of professional education, and (3) quality and distribution of nursing service.[5]

Recruitment to the nursing profession has received much attention in recent years, but there has been little systematic study of such factors as (1) early identification of potential recruits; (2) sound and effective career guidance and counseling; (3) geographic variables; (4) effective recruitment techniques; (5) consideration of nursing careers in comparison with others; and (6) significance of the cost of nursing education.

Previous efforts to obtain answers to some of these questions have raised others. For example, studies of staffing patterns in hospitals show great variation in the numbers and types of personnel used per patient. Data now available do not explain the disparity.

2. *Extension and improvement of physical facilities*

Hospitals and medical centers, as well as smaller facilities such as nursing homes and clinics, are fixed in place and cannot move with population changes. Also, being designed for certain purposes, they cannot easily alter their functions. Their capital cost is so great that they can be replaced or relocated only infrequently. Thus the general patterns of health services in communities are largely governed by the prior disposition of major buildings and their contained equipment. Too often this disposition is obsolete, both geographically and functionally in terms of the changing health needs of a highly mobile population.

The quality of existing facilities also weighs heavily in the decisions of physicians, dentists, and other health professionals to locate or remain in particular communities. Hence, the state of its facilities affects the ability of a community to compete for other scarce health resources and services.

The planning, design, and use of health facilities consequently must reconcile many factors, and must consider the relatively distant future as well as the immediate present. Research seeks to explain which factors must be considered in planning, how lay and professional leaders can organize effectively to plan and create new facilities, and how experimental facilities may be developed and evaluated. These general subjects open into many more specific research areas.

The first question concerns community needs, resources, and organization. What are the primary health needs of a community? To what extent can they be measured and future demands anticipated? What are the problems as perceived by the health professions and the public? What are the sources of support? This information is essential to the community, and specifically to those responsible for planning and designing health facilities.

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[5] "Toward Quality in Nursing Needs and Goals: Report of the Surgeon General's Consultant Group on Nursing," PHS publication 992. Government Printing Office, Washington, 1963.

The organization of services within hospitals and the need for the sharing of services among community hospitals is a challenge now being given increased attention, not only to improve care but also to reduce costs. Answers are needed for such questions as: Why has there been such a sharp increase in demand for outpatient service? What are these demands and how do they affect the rest of the hospital? In what ways can the efficiency and effectiveness of various departments within a facility be improved through better design of the physical plant? Can present facilities accommodate the latest and most complex equipment without adversely affecting existing patterns of patient care? What can the small rural hospital do to provide its patients with the benefit of these improved but costly services?

It is necessary to learn how to measure and combat obsolescence. When is a facility obsolete? When should a facility be modernized, renovated, or abandoned? What are the criteria in each case?

3. Understanding the financial basis of health services

Research in the economics of health services aims at a critical problem of modern medical care. Medical and hospital costs have increased more rapidly than the general rise in the cost of living. As a result, there has been reduction of the ability of a substantial proportion of the population to meet the costs of health services. Simultaneously there have been dramatic changes in the financing of health care, of which the growth of voluntary health insurance has been the most obvious. All of these factors affect, to a greater or lesser extent, the availability of care, the willingness of patients to seek and doctors to prescribe certain services, and the entire pattern of health service organization.

There has been less research effort in health economics than in other parts of community health. Research is therefore at the stage of developing better tools for study, better sources of data, and identifying priority subjects for study through individual projects. A number of areas of investigation have been laid out.

We need to know what proportion of their disposable income is spent by specific population groups for specific types of health services. These figures would indicate the level and distribution of existing demand for health services and could be compared with indexes of need for services.

We need to study how existing methods of financing health care affect quality, organization and distribution of services. For example, we need detailed information on the actual coverage provided by existing voluntary insurance plans: How many people are protected against what? How well are newer services such as prevention and rehabilitation provided for? How adequate are existing plans for both routine and exceptional needs?

Methods are needed to measure objectively the operating costs of various types of facilities, such as general and special purpose hospitals and nursing homes; and the costs of various programs for chronic or special disease groups, for the aged population, and for new or more extensive prevention and rehabilitative health services.

Finally, studies should seek to relate costs to levels of quality in health services.

Examples.—A pilot project, now underway, is developing more standardized methods which may permit better comparison and control of hospital costs. Information is being collected from over 100 general hospitals in one State through the collaboration of State and voluntary organizations concerned with hospital operation. Success in this type of project will provide more effective techniques for other economic studies.

Several studies in dental health—an area of great concern and major expense for many families—illustrate the potential contributions of economic research in all health fields. One study will attempt to collect detailed information on cost and frequency of specific types of dental care of members of families in a large section of a State including both urban and rural areas.

Another project of greater sophistication is working on a theoretical design for prepaid dental care programs. Using methods of operations analysis, the attempt will be made to work out the required relations among the characteristics of subscribers, costs, level of service, amount and origin of total financing, and the organization of the facility.

C. ORGANIZATION OF HEALTH SERVICES

Not long ago health services in the community consisted of the things the general practitioner and the dentist did in their offices or at the patient's bedside in his home. When more acute medical problems arose or surgery was needed, patients were moved to a hospital which was designed to give general medical attention.

Today, and increasingly in the future, it is possible to provide specialized services for many disease problems. Prevention of health problems before they become acute, and restoration and rehabilitation after illness and accidental injury, are also integral parts of comprehensive health care.

Paradoxically, many communities offering the richest array of health programs do not provide the necessary continuity in the movement of the patient through the various links in the chain of health services. The patient himself must often take most of the initiative in obtaining and coordinating the services he needs. After noticing his symptoms, the patient has to make a tentative diagnosis, take himself to the appropriate medical specialist, go from one specialist to another if necessary, take the prescribed treatment, arrange for rehabilitation or long-term care if needed, and provide the financial arrangements to pay for the whole process. This kind of effort is obviously beyond the capacity and inclination of many people needing health care.

Organization and coordination are essential ingredients in the whole process of health services in the community. Scientific investigation of the methods which will build organization and coordination into existing private and voluntary community health services must have high priority.

One question to be investigated is the place of community or administrative medicine in the structure of health services. The interrelationships of private medicine and public agencies need to be examined. What are the functions and responsibilities of (*a*) the private services, such as the physicians and their various forms of practice—solo and group—and the voluntary health agencies and (*b*) the three levels of government—local, State, and Federal—in the provision and administration of health services?

A logical beginning for organizational research is the identification of the legal, jurisdictional, and political barriers to the effective organization of health services. The issues involved for health policy in this field need to be clarified by studies of the factors governing community decisionmaking in the health area.

Health planning and coordination on a communitywide basis is a new activity, with unique features in each locality where it is undertaken. Many localities have no group or agency having this responsibility. In some communities the machinery originally created to plan and coordinate physical facilities may evolve into leadership for the idea of comprehensive health services. Wherever this evolutionary process occurs it will constitute a kind of crucial experiment, which should be studied and documented. This type of research will have to start by observing and describing how health planning and organization are done in the few communities which have such functions, or which come close to having them. The objective is to determine what activities are beneficial and how they can be reproduced elsewhere.

Examples.—Comprehensive community planning of health services, including facilities, is being approached in a few localities. One seeks to determine the conditions for establishing a permanent organization, representing the community, the health professions, and hospitals and related health facilities, which can plan and guide development of facilities and services for a metropolitan area. The initiator of this study is an existing area hospital council. Another study of the same type is designed to show "whether an active health care facilities planning council cannot only plan but also bring into being and maintain a program of health care facilities and services coordination." A third community aims to create a countrywide autonomous organization "which will be broadly representative of various professional and lay interests and which will concern itself with the voluntary orderly planning of a coordinated health facilities and services system for the county as it increases in population and health needs."

D. INCREASING THE USE OF AVAILABLE SERVICES

Many individuals do not avail themselves of immunization programs, of regular medical examinations, of other preventive and restorative services, or do not follow prescribed courses of treatment. The extent to which people seek out and make use of available health services is strongly influenced by their personal attitudes, social circumstances, and cultural background. Whether an individual views himself as a "sick" or "well" person, and the extent to which people in his social and cultural circumstances habitually seek or avoid professional health services may have more to do with his use of scientific care than his nearness to its source or his financial ability. Improvements in the quantity and quality of resources and in their organization cannot overcome the independent influences of personal psychology and culture.

These problems require a large research effort which must rely heavily on the social and behavioral sciences. How and in what circumstances do people define themselves and others as sick? What symptoms and what other factors influence people to seek health care? What influences determine the course of care they follow? Where do patients go to seek help for specific types of symptoms and conditions? What are the patients' expectations and attitudes toward a source of care, and how does the professional's approach to them influence the outcome of care? These are some of the questions relevant to the problems.

Adequate research in these areas is essential to effective planning in community health. Often a seemingly ideal health program for a given community or population group has failed because the professional personnel were unaware of social or cultural factors that made unacceptable the manner in which the service was to be provided.

Little is known about the factors that motivate people to act. Studies to show when and how fundamental health attitudes are established and techniques of motivation at different age levels are necessary, as are more searching investigations of the social and cultural determinants of health behavior.

All of the problem areas in community health research depend to a great extent on the development and maintenance of effective channels of communication, so that new needs are recognized and new knowledge and ideas may flow steadily from their point of discovery to their point of application. The problem in community health involves disseminating available information in such a way that people—both providers and consumers of health service—are moved to action. Researchers are only beginning to gain insight into the field of mass communication as it relates to health and safety.

Example.—The question of the greater use of the periodic health examination illustrates the range of research needed in utilization problems. The example also demonstrates that to create or improve one single technique of service may demand investigation of many related problems by many types of scientists.

Hypothetically, the periodic health examination may prove to be one of the essentials of preventive medicine. The evidence, some 100 years after it was first proposed, indicates that there is not general acceptance of the idea by either the public or the medical profession, except in pediatric practice where this technique is routinely used by physicians and accepted by parents. To develop and evaluate this idea in practice, a wide range of research is needed which may be described as medical, behavioral, and social.

Research is needed into the methodology of the health examination itself. More sensitive techniques for the detection of many diseases in their early stages are needed. This is especially true of the cardiovascular diseases and cancer, which are currently the major causes of mortality. For many diseases and conditions, further improvements in the techniques of patient management are needed. In many instances these techniques involve the alteration of the patient's way of life. They therefore are behavioral problems rather than purely medical problems, requiring the patient to alter dietary activities, social activities, and exercise patterns. What is needed are feasible and effective techniques for changing behavior rapidly.

Investigations are also needed on the reasons for acceptance or rejection of periodic health examinations by the public, and in methods of motivating persons to seek examinations. For example, why do many parents regularly take their children for periodic examinations, but fail to obtain them for themselves? The same questions may also be directed to such fields as immunization.

Effective utilization of health services depends on the patients' following the health professional's advice and prescriptions. Present-day long-term care programs, many of which are without direct day-to-day professional supervision, depend for success upon the patients' strict adherence to a prescribed regimen often over a very long time. The studies that have been made reveal a 50-percent adherence or less.[6] In order to obtain improved cooperation from the patient, the factors that effect his full cooperation must be identified. The relationship between him and his physician or nurse is certainly one of them. The barriers in communication between professionals and their patients may be due to social, cultural, and psychological differences, or to the differences in their knowledge of disease processes and the mode of action of drugs.

Examples.—Two studies underway illustrate research needed on this problem. The aim of the first study is to discover whether public health nurses can be more effective in improving the health of Spanish-Americans in New Mexico by altering the nurses' standard field preparation. They would become familiar with local cultural beliefs and practices, and encouraged to try out new approaches. The particular New Mexico village under study displays a surface acceptance of the tenets of scientific medicine. But it has preserved a core of traditional and magical beliefs regarding disease, cure, preventive health practices, and mental health. Conventional approaches to public health practice in New Mexico, as well as in other communities where sharp cultural differences exist, have been shown to be ineffective.

The study sample, with controls, will be observed as public health approaches are being tested and revised. Changes in the community will be measured through such indicators as acceptance or rejection of hospitalization, frequency of visits to public clinics or private physicians, comprehension of disease and the process of disease transmission, and acceptance or rejection of rules of personal hygiene suggested by public health nurses in their work.

The results of such a study should be useful to public health administrators by demonstrating how knowledge of a subculture and social organization can be used to make public health programs more effective.

The other study is designed to determine whether knowledge of the disease process and mode of drug action affects adherence to a medical regimen. In this case the problem is to induce patients to follow the regimen for peptic ulcer. This illness is prevalent, and its recurrences preventable. The research design consists of studying four groups of patients with varying knowledge of his disease. The research findings would clarify some of the causes of good or poor adherence to medical regimen that could be laid to the factor of knowledge.

E. MEASURING AND EVALUATING SERVICES

The ability to make deliberate improvements depends on the ability to measure existing operations. Measurement, in turn, requires criteria and measuring techniques. The preceding sections of this chapter have indicated the relative absence of both criteria and methods of scientific measurement and evaluation in community health. Research for the explicit purpose of developing and testing criteria and methods is therefore indispensable to scientific progress in many other parts of the community health field.

1. Describing what exists

Before community health practices can be improved, information is needed on how the existing systems really work. Without this knowledge, decisions to continue or change current practices or to institute new ones can be made only by costly trial and error methods. Since the ultimate goal of any health service is to decrease morbidity and mortality, it is important to know how close specific services come to reaching this goal.

Studies for these purposes will include definitions of incidence, prevalence, and other factors associated with accidents and disease; and accurate determination of the quantity and quality of existing services. At the present time, there are reasonably reliable data for measuring births and deaths, but measurement techniques for prevalence and incidence of accidents, disease, and disability are relatively crude. Studies to develop more precise techniques in this area are needed.

In the field of accidental injury, for example, methods of measuring the extent of the problem are particularly essential. These depend on developing criteria as to what should be counted in accident incidence. Work is proceeding in cooperation with national organizations to establish definitions and classification systems. There is also collaboration with health departments and motor vehicle departments to bring about some conformity in definitions and measurement. Forms have been designed and instructions formulated for obtaining injury information in house-to-house surveys, in reporting by private physicians and others who treat injuries, and in reporting by hospitals. Because of the various types of accidents that can cause death, supplements to the death certificate are being developed for particular types of accidents in which data can be obtained regarding the deceased and the circumstances surrounding the event.

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[6] Roth, H. P., and Berger, D. G., "Studies on Patient Cooperation in Ulcer Treatment, I. Observation of Actual as Compared to Prescribed Antacid Intake in a Hospital Ward," Gastroenterology, 38 : 630–633 (April 1960) ; Sandidge, R. P., et al., "Rheumatic Fever and Rheumatic Heart Disease Among College Freshmen," Student Medicine, 8 : 122–130 (December 1959) ; Pitman, E. R., Benzier, E. E., and Katz, M., "Clinic Experience With a Urine PAS Test," Diseases of Chest, 36 : 3–4 (July 1959).

The organization and delivery of comprehensive health services depends upon a thorough assessment of the patients' total needs in long-range terms. The only ways we have at present of assessing the needs for health care are measured by standards developed in a different era. Other diseases were dominant; other methods were used to pay for medical services; fewer services were available, sought and delivered by fewer people in different circumstances. Therefore, before the organization of any particular service or program can be improved, we need a new framework of ideas based on reliable up-to-date information. For example, to improve outpatient and emergency hospital services we must know what specific types of care ambulatory patients need from a given source if duplication and needless effort are to be avoided.

Example.—Results growing out of a research project illustrate the usefulness of a conceptual guide for undertaking the role of the outpatient department of a hospital. The conceptual scheme was applied to a representative sample of 667 outpatients at a large hospital in an eastern city in order to discover their sources of medical care.[7]

Among the many problems which the outpatient department faces, the basic one is the fragmentation and discontinuity of care. The features of the present organization of services which result in fragmentation and discontinuity of care are, among others:[8]

(1) Absence of scheduled appointments.
(2) Dispersed physical location of the services.
(3) Lack of coordinated management of services because of the use of specialty clinics in which the clinic physician did not provide coordination.

In order to define the role of the outpatient department (OPD), a conceptual framework was developed to determine (1) each patient's current sources of care, (2) his central source of care, and (3) the role of the patient's central source of medical care.

This particular study showed that the OPD has a much more versatile role in actuality than it has in theory. It was the central source of medical care for one-half of the patients. More importantly, one-third of the patients used the OPD exclusively.

2. *Development of criteria for measurement and evaluation*

It is necessary to define what is meant by an "improvement" in a health service before measurement and evaluation have any practical meaning. The characteristics which distinguish the improved from the unimproved become criteria which permit objective comparison between programs. Without criteria there is no sound basis for making true comparisons. It is clear that evaluation of health services requires appropriate criteria, which ought to be available before evaluation begins.

Development of adequate criteria is a task for research, and one of the most important given to research. Since it is desirable to evaluate many features of health services, criteria are required which will be appropriate to manpower, facilities, financing, forms of organization, and particular services for particular groups. The elaboration and testing of such an array of criteria will be a large and continuing segment of all community health research. This is a particularly difficult area, because the criteria developed must command the respect of the professional and scientific groups involved.

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[7] Lee, S. S., "A Fresh Look at Outpatient Department Problems," Hospitals, 32: 35–37 (Mar. 1, 1958). Solon, J. A., Sheps, C. G., and Lee, S. S., "Delineating Patterns of Medical Care," American Journal of Public Health, 50: 1105–1113 (August 1960). Solon, J. A., Sheps, C. G., and Lee, S. S., "Patterns of Medical Care: A Hospital's Outpatients," American Journal of Public Health, 50: 1905–1913 (December 1960).

[8] Lee, S. S., "A Fresh Look at Outpatient Department Problems," Hospitals, 32: 36–37 (Mar. 1, 1958).

Example.—A comprehensive study[9] of hospital insurance, prompted by a local rise in premium rates, investigated the problem of establishing objective criteria for hospital admissions and discharges. The project collected and analyzed data from a sample of almost 11,000 discharges from 47 general and 23 non-Federal specialty hospitals.

Eighteen diagnoses were selected for study and panels of physicians were asked to establish standards for hospital care in each diagnosis. For each diagnosis, the panels determined (1) the criteria of admission, (2) the procedures necessary to and consistent with the diagnosis, (3) complications affecting length of stay, (4) expected length of hospital stay, and (5) indications for discharge. The recommended criteria were detailed. They were specific with respect to admissions but otherwise flexible. They gave detailed provisions for contingencies and in general allowed for a wide range of length of stay. They could not eliminate some factors that were not purely medical, such as the availability of home care.

3. *Evaluation of services*

Evaluation of health services mean the comparison of a service with an appropriate criterion or criteria. To obtain usable results from such comparisons requires a scientific procedure of considerable complexity and sophistication. The elements of service to be evaluated must be measurable, and there must be a plan or design for making the measurements, comparing them with the criteria, and deciding which service produces results closest to the desirable criteria.

Good evaluation techniques applied to many types of health services will show how to give people the best possible service at the least cost in dollars, manpower, and facilities. Research to improve the techniques of evaluation and to apply the improved techniques to many types of service therefore has a high order of practical utility.

This type of research also involves difficulties commensurate with its utilitarian importance. We need much more experience in constructing and applying evaluation designs in order to make this involved scientific process more effective.

Evaluation studies generally require collection and analysis of relatively large amounts of data. For this reason, and also because opportunities for comparing two types of service are at present limited, it is not easy to increase the amount of good evaluation research.

Example.—Several cooperative programs between private and public agencies in a large city, which are experimenting with various approaches for providing comprehensive health care, will receive rather complete evaluation. The evaluative design will attempt to standardize utilization and cost data. The goal will be to permit selection of the most desirable program of comprehensive medical services for a large number of people who have previously had to do without them—as is especially the case with welfare patients.

One such experiment is furnishing comprehensive care outside the hospital to 13,000 indigent aged receiving old age assistance and medical aid to the aged.[10] Two aspects of this program will be evaluated: Utilization, which will disclose data about continuity of care, and the cost of services. The hypothesis underlying this program is that the combined physician, hospital, and nursing home services will alter the utilization rates of the welfare group and consequently their recovery rates. The costs of services under the proposed program will be established by comparing them with costs under the current medical care system provided by the welfare department.

F. SUMMARY

The preceding discussion of research subjects has examined the basic components of community health services one by one. In reality, operating health services are the sum of many components. They are in a state of continuing change. It may not be possible in community research—as it is in laboratory research—to isolate completely a single factor and to study it free of other influences. This accounts for the great complexity and difficulty of research in this field.

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[9] McNerney, W. J., and the University of Michigan Study Staff, "Hospital and Medical Economics," 2 vol., Chicago, 1962.

[10] Densen, P., "Research in the Community: Functions of the Health Department," New England Journal of Medicine, vol. 269, No. 15, pp. 781–789.

However, out of many studies will emerge a better comprehension of how health services function. We shall accumulate more precise knowledge of the results produced in terms of specific patients and of general health levels. We shall develop a growing technical capacity to introduce improvements at many points in the total health service process.

Chapter III. Development and Coordination of Research

A. WHAT IS RESEARCH?

Noted scientists have pointed out that there is no one form or method of research. In simplest terms, research is an inquiry which uses the most careful and appropriate methods to get an answer. Both of the underlined words are significant. The methods must be as precise as possible, and they must be adapted to the peculiarities of the problem. Therefore research approaches and procedures grow and change with the problems which interest scientists.

If there is any one thing which is common in research it is the belief that something more specific can be learned about a problem than is presently known. It does not matter how baffling or complex the problem may appear to others. The researcher is challenged by these difficulties. His job is to devise a way through the barriers of inertia and puzzlement which others have accepted as unalterable. Furthermore, the scientist does not expect to solve everything at once. He is used to solving problems bit by bit. He uses pertinent information and theories which others have produced; and he is satisfied to add something to the total structure. He also knows that even very odd facts and strange ideas have been the starting point of brilliant advances. Therefore, he is accustomed to the presence of strangeness.

When research approaches a new problem or field, it begins by asking simple questions, the answer to which may be a logical classification or description of things. This is the way biology started. As knowledge of the problem or field increases, research may ask other questions, the answer to which may be the testing of precise hypotheses by controlled experiments. But not all sciences are experimental—astronomy, for example, Careful description based on logical analysis of observations remains the basis of most of science and of research method.

The questions outlined for research in chapter II include some which can be answered by experiment, and some which are in the earlier stages of science and have to be answered at present with descriptions and classification. But each of these questions can be approached profitably.

The social and behavioral sciences will offer the most appropriate and effective concepts and procedures for a number of community health research areas. In other areas biological and medical sciences will supply the methodology of choice. In many research efforts the design will necessarily combine ideas and techniques from both social and biomedical sciences. This will be particularly true of studies of the organization and evaluation of services. Some of these studies will involve design considerations of great scope and delicate refinement.

B. TRAINING FOR RESEARCH

The preceding discussion indicates the need to train more researchers capable of effective work in the major problems of community health. Community health research training will concentrate on teaching the application of appropriate scientific methods to the study of problems central to community health. These are primarily problems of the improvement of health service resources; organization, improvement, and evaluation of comprehensive community health services and programs for prevention, treatment, and control of disease in the community; and the improvement of the utilization of health services.

The involvement of both biological and social science, of specific technical and broad organizational factors in many studies, requires very broad professional education and training in the universities. It is necessary to develop students who have an appreciation of the contribution of fields other than the one in which they are specially trained, and who are oriented to research in the general area of community health. Not many centers of graduate education provide such multidisciplinary preparation. Also the need to improve theories and research methods requires concentrated instruction in scientific method and field research experience during the graduate training period.

To assist universities in expanding this type of training, a program of research training grants is being developed in the Bureau of State Services-Community Health. Such grants will be made to qualified institutions, in most cases universities or appropriate graduate schools. Through affiliation with public or private health services organizations the training programs will offer students a certain amount of experience in operating programs, in which they may participate in ongoing research or select and complete suitable dissertation subjects. It is expected that some programs will concentrate in the intensive training of students in one type of research method, such as epidemiology, while others will cover a broader range of research approaches. It is hoped that most programs will accept students enrolled in any one of the pertinent sciences or disciplines and train them at predoctoral and postdoctoral levels.

C. RELATION TO AND COORDINATION WITH NIH PROGRAMS

The center of scientific interest and concern in BSS (CH) is the community: the advancement of comprehensive health services therein, the development of additional knowledge concernng its health characteristics, the improvement of methods of service, the provision and organization of facilities and professional personnel, and the adequate financing of services. The center of NIH concern is the human organism in health and disease: the understanding of its nature, the achievving of effective means for diagnosis, treatment, and prevention of ill health and the advancement of the underlying biochemical behavorial and related sciences. In this approach the community is of interest only if it is a determinant factor in disease or if it must be studied through epidemiological methods to clarify disease causation and etiology.

Coordination among the research programs of the Public Health Service is essential in order to serve the interests of the many sciences and disciplines contributing to health-related research. Overall coordination is achieved through the Office of the Surgeon General and its framework of staff offices. In these areas the basic definition of program responsibilities and guidelines are determined. On an operating basis these program guidelines are administered through the PHS framework for grant administration which includes the Division of Research Grants, the Grants Policy Officer, and the Interchange Advisory Committee for Extramural Programs. This process of grant administration serves as an effective mechanism for the exchange of information, viewpoints, and the coordination of grant management policy.

The nature of these mechanisms is as follows:

1. *Public Health Service coordination*

The Public Health Service has established two principal coordinating activities which cover all research programs, including those of community health and the National Institutes of Health. These are the central grants management functions of the Division of Research Grants of the National Institutes of Health, and the activities of the Grants Policy Officer and of the Interbureau Advisory Committee for Extramural Programs.

(*a*) *Grants management services.*—In 1946 the NIH set up an office, which subsequently became known as the Division of Research Grants, for the purpose of carrying out overall administration and management of its own research grant programs.[11] In addition to serving as a central point for the receipt and referral of research and research training grant applications, an important function of this organization was to foster coordination among the various research grant programs of the National Institutes of Health. A major method of accomplishing this purpose was the development of a referral system, a process by which the Division of Research Grants assured that incoming grant applications were routed to the proper program.

In the fiscal year 1963 the Congress provided at the instance of the House Appropriations Committee for the establishment of research grant functions in the environmental health area in the Bureau of State Services. The well-developed referral system of the Division of Research Grants of the NIH was extended to these new programs.

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[11] For a concise history of the Division and description of its functions, see "The Division of Research Grants of the National Institutes of Health. Its History, Organization, and Functions." 1945–62. DHEW, PHS publication No. 1032.

With the establishment in the 1964 fiscal year of research grant functions in the community health program areas, the Division of Research Grants now provides central management and coordination for programs of the National Institutes of Health, Environmental Health, and Community Health.

The Public Health Service now includes 22 separate research grant programs including 9 National Institutes, and the Division of Research Facilities and Resources of NIH, 5 Environmental Health Divisions, and 7 Community Health Divisions.[12] Coordination begins with an initial examination of each research grant application by a trained referral officer in the Division of Research Grants, who determines to which of the PHS programs the application will be assigned. This determination is made in accordance with guidelines developed by the Division of Research Grants. Therefore, a given research application will be assigned to community health programs only if the referral officer finds it to be appropriate in the community health area in accordance with the established criteria. Otherwise such an application would be sent to the appropriate NIH Institute or Environmental Health Division.

(*b*) *The Grants Policy Officer and Interbureau Advisory Committee.*—In January 1963 the position of Grants Policy Officer was established in the Office of the Surgeon General to provide a control point for the formulation and continuing review and evaluation of all grant policies of the Public Health Service. The Grants Policy Officer brings into one focus the grant coordinating mechanisms of the Service. This is accomplished through his chairmanship of the Interbureau Advisory Committee for Extramural Programs (discussed below) and through a wide variety of activities touching the grants activities of all parts of the Public Health Service.

Earlier, in November 1961, the Interbureau Advisory Committee for Extramural Programs was established by the Surgeon General as the principal coordinating body for PHS grant policy and administration. The membership consists of the Grants Policy Officer, and a representative from each of the major granting programs (NIH, EH, CH). This committee meets monthly on a regular schedule. Under the leadership of the Grants Policy Officer it is responsible for the development of servicewide grants management policies and procedures for all extramural program activities in all research grants and related programs. This Committee affords a regular channel through which senior staff in the research programs of NIH, Environmental Health, and Community Health frequently discuss joint problems of application referral, general coordination of areas of research support activity, as well as common grants policies and procedures.

2. *Community health program planning*

Under an established procedure for program planning, the community health divisions annually scrutinize and reappraise their specific program objectives and operations. Through this process the community health programs are required to identify research priorities from among the most pressing of the obstacles confronting their respective service missions. Therefore, the original definition of research areas is derived from the primary interest of the divisions and the Bureau in community health subjects, as distinct from subjects which may be of interest to the National Institutes of Health. Information about the primary research interests of the community health programs is then disseminated to the referral officers in the Division of Research Grants and to the several study sections which provide scientific review of the bulk of applications referred to the CH program. Representatives of both NIH and CH programs frequently interchange attendance at scheduled meetings of national advisory councils and committees and of study sections which review projects and discuss research areas for the respective programs.

In addition, staffs of both programs have access to and use two independent sources of information which indicate the projects which each program is supporting. The NIH annually publishes the Research Grants Index,[13] which identifies each PHS research project by major subject and project number. The Science Information Exchange, a part of the Smithsonian Institution, serves as a repository of information on all projects supported by all research programs of the Public Health Service and is able on request to indicate the nature of research supported by any part of the Service.

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[12] For a brief description of the research grant programs of the Public Health Service see "Public Health Service Research Grant Programs." DHEW, PHS publication No. 415.

[13] Research Grants Index, U.S. Public Health Service, National Institutes of Health. PHS publication No. 925, U.S. Government Printing Office.

These measures for interprogram coordination have their effect at the most strategic levels—where incoming projects are being assigned to one of the PHS programs, or in the formal meetings of groups having official responsibility for formulating policies and procedures for all research programs of the Service. They operate continuously in a framework of policies and institutional arrangements which give representation to all programs but prevent dominance by any one.

APPENDIX

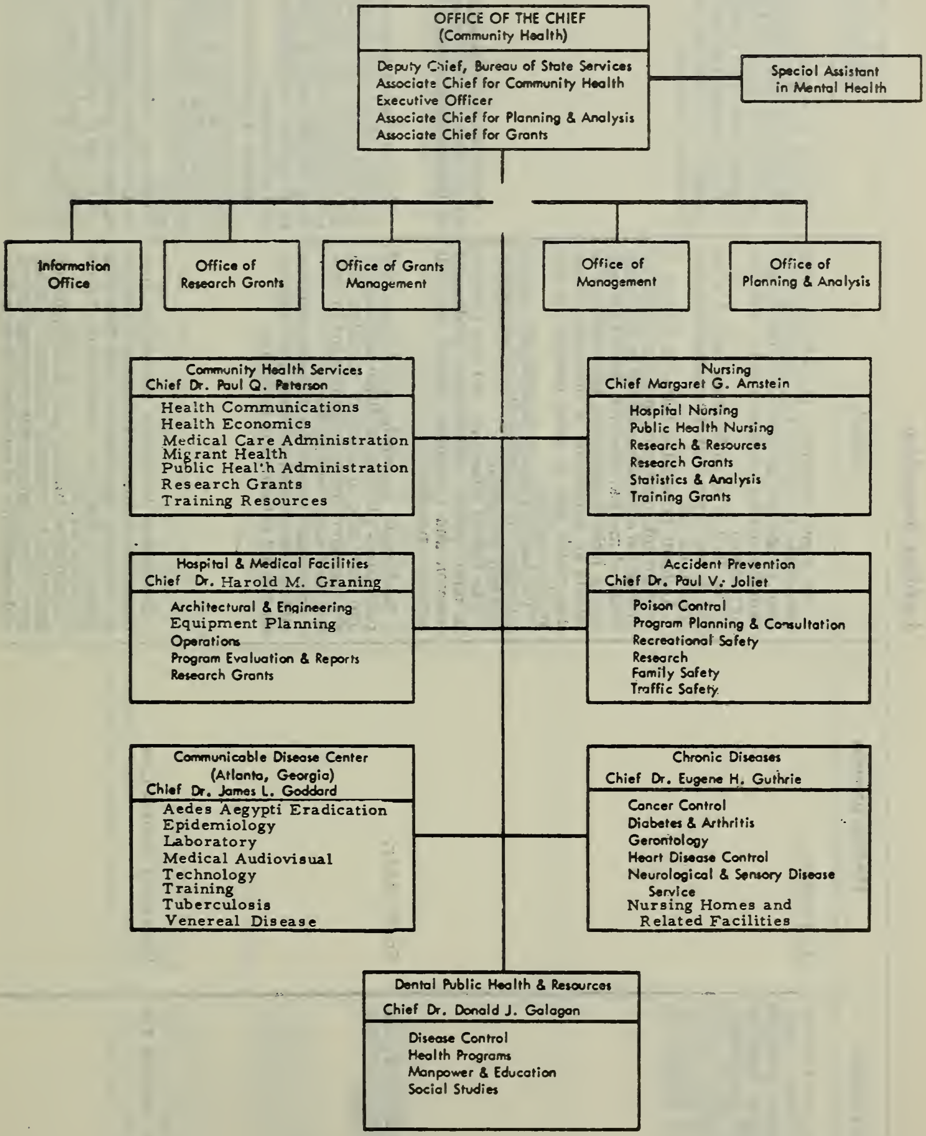
TABLES ILLUSTRATING PROGRAM OBSTACLES AND RESEARCH OPPORTUNITIES—COMMUNITY HEALTH RESEARCH PROGRAM

This appendix describes principal obstacles to achievement of better community health services and relates the obstacles to types of research which may lead to their reduction or removal. In order to give more detail than is possible in chapter II and to relate problems to specific program responsibilities, a separate table is presented for each of the seven divisions of the Bureau of State Services-Community Health.

The types of obstacles and research possibilities in the tables have been selected to illustrate areas currently important to community health. Each table is intended to be read as a whole for the purpose of displaying the general character and range of program obstacles and research potential. No attempt has been made to include all problems, nor is it implied that all of the problems listed belong exclusively to community health. It should be emphasized that effective surmounting of many of the obstacles set forth in this appendix will require the advancement of basic knowledge in the development of specific diagnostic, therapeutic, and preventive capability through the programs of the National Institutes of Health.

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service

BUREAU OF STATE SERVICES
(Community Health)
Organization as of November, 1963


OFFICE OF THE CHIEF
(Community Health)
Deputy Chief, Bureau of State Services
Associate Chief for Community Health
Executive Officer
Associate Chief for Planning & Analysis
Associate Chief for Grants
Special Assistant in Mental Health
Information Office
Office of Research Grants
Office of Grants Management
Office of Management
Office of Planning & Analysis
Community Health Services
Chief Dr. Paul Q. Peterson
Health Communications
Health Economics
Medical Care Administration
Migrant Health
Public Health Administration
Research Grants
Training Resources
Nursing
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Hospital Nursing
Public Health Nursing
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Research Grants
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Training Grants
Hospital & Medical Facilities
Chief Dr. Harold M. Graning
Architectural & Engineering
Equipment Planning
Operations
Program Evaluation & Reports
Research Grants
Accident Prevention
Chief Dr. Paul V. Joliet
Poison Control
Program Planning & Consultation
Recreational Safety
Research
Family Safety
Traffic Safety
Communicable Disease Center
(Atlanta, Georgia)
Chief Dr. James L. Goddard
Aedes Aegypti Eradication
Epidemiology
Laboratory
Medical Audiovisual
Technology
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Tuberculosis
Venereal Disease
Chronic Diseases
Chief Dr. Eugene H. Guthrie
Cancer Control
Diabetes & Arthritis
Gerontology
Heart Disease Control
Neurological & Sensory Disease Service
Nursing Homes and Related Facilities
Dental Public Health & Resources
Chief Dr. Donald J. Galagan
Disease Control
Health Programs
Manpower & Education
Social Studies

Approved: Paul W Christensen
Deputy Chief, Bureau of State Services

Accident prevention

National health problems	Division program	Obstacle	Research opportunities
Each year accidents will kill over 93,000 persons and injure about 45,000,000. This involves 10,000,000 bed disabled. 38,000,000 requiring medical care, 2,000,000 hospitalized, 460,000,000 restricted activity days (114,000,000 bed disabling). The estimated prevalence of physical impairments caused by accidents is over 8,000,000.	All programs.	The frame of reference in which accident prevention is viewed; i.e., accidents have been considered as inevitable—not as preventable medical problems to be overcome by research. The field is 20 to 30 years behind other public health research in communicable and chronic disease. Accident prevention lacks the benefit of background, experience, and the traditional methods of approach available to most other fields of medical research; further, it currently lacks organization and numbers of outlets for application of preventive measures which exist in other branches of preventive medicine. The lack of research facilities and trained scientists for interdisciplinary studies in accident prevention.	Studies of common causes of most accidents and specific causes of some accidents. Research to develop methodology for application of preventive measures. Studies on communication of accident prevention measures. Epidemiological studies of accident causation; development of hypotheses; evaluation of effectiveness of preventive measures.
		The lack of laboratory and test facilities to meet specific requirements for directed research and continuing studies to fulfill service responsibilities.	Establishment of programs of sufficient magnitude in universities to train research investigators and conduct major research programs.
More than 39,000 deaths and about 3,000,000 persons injured annually by moving motor vehicles.	Traffic Safety.	Inadequate knowledge of drivers' and pedestrians' physical condition and behavior and their role in accident causation; also the relation of human requirements to highway and motor vehicle design. Inadequate knowledge of group behavior and the role of social factors in their influence on driving patterns and accidents.	Epidemiologic studies of motor vehicle accidents involving injury and death to determine contributing personal factors such as physical defects, through physical examination of drivers, the study of autopsies and attitude tests. By simultaneous study of road conditions and the mechanical condition and design of the car to determine relationships between the host, agent, and environment. Studies of specific driving problems (e.g., rear-end collisions on freeways at night) by observation of actual driving patterns in a simulator. Studies of the role of social and cultural factors on the driving pattern including the influence of parents and peers.
Emergency care for accident victims.	Emergency Medical Care.	Insufficient knowledge concerning timeliness and adequacy of treatment in relation to survival, complications, hospitalization period, medical costs, impairments, return to normal activity. Insufficient training and inadequate organization for training ambulance attendants. Inadequate provisions for registration and surveillance of ambulance personnel.	Field and clinical research studies on timeliness of treatment at subprofessional and professional levels for subsequent medical management and final outcome. Analysis of requirements for licensing of attendants; State and local ordinances; curriculum development; development of training center.

		Insufficient knowledge of organization and methods of operation of ambulance systems and emergency facilities to meet individual needs of different communities and provide equivalent standards of emergency care.	Inventories of community emergency services, including communication networks, provisions for patient acquisition, emergency facilities, professional staffing. Economic and management studies.
Staffing of accident prevention programs at the State and local level.	Field Services Branch; and Program Planning and Consultation Branch.	Shortage of personnel trained in accident prevention community services and activities programs.	Development of training programs designed to provide field workers skilled in organization and conduct of preventive programs.
Deaths from nonmotor-vehicle accidents total more than 50,000 annually—28,000 in the home or on home premises.	Family Safety. Recreational Safety.	Changing characteristics of family life—mechanization; other environmental hazards.	Studies to identify new hazards arising from changes in household environment and in forms of recreation, and to indicate ways of developing programs for prevention and control.
The leading types of fatal accidents other than motor vehicles: Falls, fire and explosion, drowning, firearms, and inhalation and ingestion.	Poison Control.	Acceptance of risks as normal to family life and to recreation. Individual and community standards of safety. Acceptance of necessary retsrictions and limitations placed upon individual for family and community safety.	Research on more effective ways of communicating safety information. Utilization of systems analyses for definition of problems and testing solutions in programs for prevention and control.
Leading types of nonfatal injuries: Falls, struck by object, cutting and piercing instrument, handling rough objects.		Insufficient insight into the mechanisms for motivating behavior and into the techniques of effective communication.	
		Insufficient knowledge of the aging process and its relation to accidental injury; i.e., physical or mental changes, disease or residuals of disease.	Specification of human requirements for engineering safe design features into homes, and home machinery.
		Problems of effectiveness and acceptability of protective devices in contact sports; home safety devices and provisions.	

Chronic disease

National health problems	Division program	Obstacle	Research opportunities
Cardiovascular disease.	Heart Disease Control Branch.	Congestive heart failure: There is a lack of knowledge concerning methods for the detection of early cases, and the optimal methods of treatment.	Epidemiological research aimed at determining the condition of disease onset for development of effective community control programs. Investigation and development of better screening techniques to detect unsuspected early cases for use in community programs. Study of better methods of patient management in congestive heart failure; how therapy is best applied and what services are necessary to insure proper therapy.
		Coronary disease: There is a need for the evaluation of preventive measures, and for the improvement of therapeutic procedures.	Evaluation of the role of dietary alteration and physical activity in preventive community programs in the coronary disease area. Evaluation of the role of obesity reduction in preventive community programs in the coronary disease area.
		Cardiopulmonary disease: Little is known about the incidence or prevalence of this disease and ecological factors associated with it. Methods for early detection and treatment in the community are needed.	Descriptive studies in communities to define the incidence, prevalence and factors associated with cardiopulmonary disease. Evaluation of practicable physical medicine techniques for community treatment of cardiopulmonary disease.
		Rheumatic fever and rheumatic heart disease: Techniques for the prevention of streptococcal disease and subsequent attacks of rheumatic fever are needed.	Studies of national patterns of types and groups of strep are needed. Improvement of diagnostic techniques.
		Peripheral vascular disease: Methods are needed for the early detection of cases and the relationship of this entity to coronary artery disease needs clarification.	Methods for the mass screening of populations for peripheral vascular disease. Descriptive studies to determine community patterns of the disease.
		Congenital heart disease: As etiologic agents are discovered, methods will be needed to eliminate these factors from the environment.	Evaluation of the role of control of diet, radiation, altitude, etc., in the prevention of congenital heart disease in community programs.
		Stroke: Methods are needed for the identification of the stroke prone individual and for the prevention of stroke.	Descriptive epidemiologic studies of the population are needed to evaluate demographic and medical factors associated with stroke as a basis for community action. Improvement of acute, subacute, and restorative therapeutic programs.
		Renal and hypertensive diseases: Methods are needed for the early detection and control of hypertension and its precursors including the reno-vascular diseases.	Development of more efficient equipment for blood pressure determinations suitable for use in mass screening programs. Followup studies to evaluate the effectiveness of existing and newer antihypertensive drugs. Improvement of screening tests and other identification procedures to permit early effective measures countering reno-vascular disease. Evaluation of self-administered urine tests.

Blindness.	Neurological and sensory disease services.	Methods are needed for the early detection of treatable eye diseases such as glaucoma and amblyopia.	Improvement of instrumentation and validation of screening techniques.
Deafness.	Neurological and sensory disease services.	Methods for the detection of deafness in preschool children are needed.	Development and validation of techniques for early casefinding. Improvement and validation of new auditory acuity tests for the screening of preschool children.
Epilepsy.	Neurological and sensory disease services.	Early detection methods are not available and community control programs are not well accepted.	Study of factors which promote the acceptance or rejection of community control programs. Development of early detection techniques suitable for mass screening.
Disability due to neurological and sensory disease.	Neurological and sensory disease services.	Many cases of neurological and sensory disease progress because of lack of methods to cope with impaired functions or lack of the application of known techniques.	Development of improved patient management techniques. Development of methods for incorporating new and known techniques into the general practice of medicine.
Mental retardation.	Mental Retardation Branch.	Methods are needed for early case detection, classification, and management in community programs. Methods are needed for organizing and providing community services for mental retardation.	Improvement of screening and diagnostic techniques and improvement of methods for management of individuals in community mental retardation facilities. Research into the organizational patterns, staffing, interagency cooperative financing, and methods for inservice training for professional and nonprofessional (including voluntary) personnel. Evaluation of community institutional and noninstitutional intensive care programs to determine their effectiveness in habilitating individuals and obtaining maximum potential. Assessment of the social and economic benefits of these programs.
Arthritis.	Diabetes and Arthritis Branch.	Better definition of the extent of the problem of arthritis and of disability due to arthritis is needed. Methods of early detection and the prevention of disability are needed. Community programs need to be developed, evaluated, and demonstrated, programs which provide effective identification of early cases and means for the prevention of disability. Methods of providing technical services to all patients need to be developed. Development of the most effective and efficient equipment and materials required in treatment is needed. Effective means of teaching technical skills to persons who could assist in patient management are needed critically, due to shortage of competently trained personnel.	Epidemiologic studies of incidence and prevalence of arthritis and disability due to arthritis and demographic characteristics of persons with arthritis. Development and evaluation of methods of preventing disability and provision of services to patients. Development and evaluation of specific equipment and materials used, as for example, in providing therapeutic braces or exercises. Study and development of means of teaching technical skills to persons not especially trained in appropriate areas.

Chronic disease—Continued

National health problems	Division program	Obstacle	Research opportunities
		Effective communication techniques are required to permit rapid utilization of techniques found to be effective.	Studies of methods for the rapid incorporation of research findings into medical practice.
Diabetes.	Diabetes and Arthritis Branch.	There is a need for improvement of early casefinding techniques, development of prophylactic treatment methods, improvement of diagnostic techniques, and the improvement of patient management techniques.	The improvement of screening techniques through the exploration of new biochemical and medical tests. Development of automated laboratory devices. Improvement and evaluation of diagnostic tests and standards. Development of educational techniques which will insure adequate patient participation in continued therapy. Identification of economic, social, cultural, and individual factors important in the detection of disease and control programs. Determination of the variables which are influential in the acceptance or rejection of the relatively rigid self-care program required of diabetics is necessary. Techniques need to be established which will result in acceptance of the regimen by the great majority of patients.
Cancer.	Cancer Control Branch.	Methods are needed to control the exposure of persons to known or suspected carcinogenic agents, for the detection of early cases, and for overcoming obstacles to the mass application of developed early detection techniques.	Development of community methods to help people eliminate or reduce suspected factors. Improvement and evaluation of mammography. Improvement of biochemical tests for mass screening. Simplification of proctosigmoidoscopy. Improvement and validation of oral cytologic techniques.
Inadequate nursing home services.	Nursing Home Branch.	Services received by nursing home patients are frequently of poor quality and adequate methods are needed for the improvement of care in nursing homes.	Evaluate the benefits derived from a nursing aid training project and explore the possible application as a standard procedure for improving patient care. Investigate minimal and optimal nursing staffing patterns for the purpose of establishing guidelines for a regional study to establish nursing staff recommendations. Explore methods of securing nursing home and related facility costs as related to the services rendered, the size and location of the facility, etc. Study lighting and associated factors influencing the vision and safety of patients. Determine average quantities by weight and volume of the major components of refuse produced as an aid to planning for their adequate handling. Determine peak flow and per capita water demands and quantity of sewage as aids in adequate planning for nursing home operations.

			Study the attitudes of physicians toward nursing home patients. A recognized barrier to the improvement of nursing home care is the lack of enthusiasm by physicians. The existence of this barrier has never been clearly defined or explained. Adapt methods for the study of food and serving preferences developed by the Army to the nursing home; and conduct such preference studies to provide data and information as a sound basis for consultation by dietary and nutritionist consultants to nursing homes. Develop a simplified method of classifying patients in nursing homes in relation to the levels of nursing skill required to provide them with minimum care. The method of classification should be based upon the physical, mental, and emotional condition of each patient. Develop a prototype of a group activities program for nursing homes. This prototype program will be used on an experimental and demonstrational basis to encourage nursing homes without activities programs to implement activities programs for the patients' benefit. Determine the training needs of nursing home administrators and other nursing home personnel.
Prevention of chronic disease and disability.	Preventive Services Section----------	The available techniques for the prevention of disability and chronic disease are limited in scope, and those that are available are frequently not employed or have been poorly evaluated.	Study of chronic disease casefinding methods. Evaluation of periodic health examinations and multiple screening. Determination of the sensitivity and specificity of screening tests. Development and automation of screening and diagnostic tests. Evaluation of risk factors as predictors of disease. Study of methods of incorporating preventive techniques into current medical practice. Studies of attitudes (professional and lay) toward periodic health examinations. Motivational studies concerned with overcoming resistance to the acceptance of periodic health examinations and multiple screening on the part of the public and medical profession. Studies concerned with motivating individuals to act upon advice given them by physicians.
Provision health services, especially out-of-hospital health services.	Care Services Section.	A variety of health services are being developed including home care, coordinated home care, central information and referral services, and homemaker (home health aid). The best methods of organizing and operating these services, placing patients, and gaining professional and lay acceptance are not known. Also, the value of programs, alternative methods of care, and costs are unknown.	Research to determine the attitudes and motivations of the general population; the aged; the chronically ill; the professional disciplines; and the paramedical disciplines toward patient participation in diagnostic and treatment regimes. Determine the factors which make for resistance to or reinforcement of the alteration of behavior patterns resulting in the improvement or adjustment to the aging process and chronic illness. Comparative evaluation of various care settings leading to the establishment of criteria for the determination of the probability of success of a particular care setting for each category of patients.

Chronic *disease*—Continued

National health problems	Division program	Obstacle	Research opportunities
			Determine the training needs for the multidisciplinary team required for the care of the chronically ill and aged related to increasing manpower availability and improving quality of existing manpower. Determine attitude profiles by physicians, dentists, and other disciplines which retard the development of programs in the area of care services. Develop a classification system of patient services and patient characteristics. The existing variety of terminology in use restricts efficient evaluations or programs and makes comparisons between programs difficult. There is a need to develop classifications which will parallel the need for services and allow for an evaluation of the results of service. Develop criteria for an evaluation of the quality of service as a means of improving service. Establish a measurable patient profile which has practical application in establishing patient status, particularly at discharge from a general hospital to a long-term care facility or service. Prospective studies to test the accuracy and validity of initial patient evaluation against results of placement and subsequent evaluation. Prospective studies to determine the effectiveness for uncovering and meeting unmet needs for chronic disease and aging by the self-survey method and by the central information and referral process. Prospective studies to determine the effectiveness of various types of dietary services (meals on wheels, shopping service, or preparation by homemaker) in the home.

Communicable Diseases Center

National health problems	Division program	Obstacle	Research opportunities
Health hazards are created by diseases of animals transmissible to man.	Epidemiologic studies of outbreaks to determine best points in transmission cycles to apply control measures to prevent occurrence of human disease. Improvement of rabies vaccines. Selection of strains of encephalitis virus isolated from epidemic and endemic areas for use as vaccine candidates.	Lack of vaccines for certain diseases. For other diseases, lack of utilization of available vaccines for domestic animals, as well as need for more effective vaccines.	Development of methods for controlling disease outbreaks in wild animal populations. Field evaluations of existing animal vaccines.
Incidence of syphilis and gonorrhea increasing, especially among younger age groups.	Provision of grants-in-aid to States and local communities for the control of venereal diseases. Provision of research grants intended to develop a wider range of control methods. Laboratory research to develop better diagnostic procedures and research on standardization of laboratory diagnostic methods.	Inadequate knowledge of treatment schedules for gonorrhea, and of antibiotics other than penicillin for syphilis. Present inability to culture spirochete of syphilis on artificial media thwarts development of immunizing methods.	Development and evaluation of better diagnostic tests. Development and evaluation of new drugs for treatment of venereal diseases. Understanding of behavioral factors influencing spread of venereal diseases. Development of immunizing methods useful in controlling venereal diseases.
Lack of understanding of the means of transmission and spread of certain communicable or preventable diseases.	Epidemiologic studies of outbreaks of communicable disease and studies of methods to abort epidemics as they occur. Research on the ecology of vector-borne diseases.	Incomplete understanding of how specific disease outbreaks occur and spread.	Studies directed toward improvement of epidemiological techniques for field studies of disease outbreaks.
Dearth of methods for prevention of spread of communicable diseases.	Epidemiologic studies of outbreaks caused by pathogenic organisms. Improvement of vaccines for selected communicable diseases. Evaluation of drugs, vaccines, or other preventive measures against communicable diseases.	New emphasis on other health problems creates shortages in personnel interested in communicable disease research.	Improvement and application of methodology for biological control of disease vectors.
The entire population is not yet protected against many preventable communicable diseases such as diphtheria, whooping cough, poliomyelitis, measles, and tetanus.	An active program of community immunization. Surveys of immunization status in communities to determine need for immunization programs. Demonstration, consultation, and training activities to encourage utilization of available preventive measures.	People do not utilize available preventive measures fully and effectively. A lack of information not only on immunization practices but also on proportion of the community that is immune.	Research on what is needed to overcome public apathy toward acceptance of existing public health tools such as vaccines and drugs. Research on how best to motivate the individual and those persons responsible for the health protection of others to seek early and appropriate assistance. Research on how to improve levels of immunization in the community.

Communicable diseases center—Continued

National health problems	Division program	Obstacle	Research opportunities
Lack of standardized laboratory procedures and reagents for use in public health diagnostic laboratories.	State laboratory consultation and development program. Production of limited numbers of reference biological reagents.	Variations in acceptable limits from laboratory to laboratory. Lack of concern for the need of improved biological reagents, as well as standardization of such materials. Lack of standardization in diagnostic laboratory tests.	Research on evolving standards, and on evaluating a wide variety of laboratory tests of public health importance.
The hepatitis problem.	Epidemiologic studies of outbreaks of hepatitis. Attempts to culture hepatitis virus(es) from clinical specimens, and to characterize these organisms.	Without a method for culturing the virus, there are no reliable laboratory tools to study outbreaks, nor can vaccine development proceed.	Demographic studies of incidence and prevalence of the disease.
Tuberculosis not decreasing fast enough.	Provision of assistance in planning, developing, and carrying out projects to reduce incidence of tuberculosis. Research to improve methods of casefinding. Evaluation of drugs for both prevention and cure of tuberculosis. Experimental studies to evaluate importance of unclassified mycobacteria.	Specific diagnostic test for *M. tuberculosis* human infections (versus disease) not available. Factors leading to endogenous reinfection poorly understood. No eradicative drug available. Confusion in laboratory diagnosis of tuberculosis, particularly with "atypical mycobacteria."	Development of methods of identification of persons who will develop tuberculosis following infection. Development of specific tests for diagnosis of human infections with *M. tuberculosis*. Determination of the role of atypical organisms as disease agents. Development of eradicative drugs and/or vaccines.

Community health services

PART I. MEDICAL CARE ADMINISTRATION

National health problems	Division program	Obstacle	Research opportunities
(1) Inadequate translation of knowledge obtained through bench research into effective community health services.	Improvement of the quality and availability of health and medical services.	General unavailability of such programs as homemaker services, home care, referral and informational services, and the continuum of preventive and restorative services.	Studies of the concepts and principles governing the present structure of health services in the country (and its various regions, metropolitan and rural) to determine to what extent they do or do not meet current health needs. Included would be community research into the most acceptable and practical ways of meeting identified health needs from the point of view of the consumer as well as the producer of health services.
		Absence of generally accepted program goals and lack of basis for determining program priorities, taking into consideration human costs, monetary costs, resources available, and feasibility, both with respect to potential accomplishment and to the timespan required for accomplishment.	As a basis for providing services geared to the needs of the people who are to use them, studies of interrelationships of health and the demographic characteristics of individuals, families, and communities, and of the amount of medical care and type of service needed and wanted by populations of specific age, sex, and cultural and economic background. Descriptive studies, combining psychological, social, and economic analyses, of the elements which enter into the demand for medical care, with consideration of (1) the relative weights various population groups assign to these elements, (2) how these valuations vary with different kinds of disease, and with (3) different forms of care.
	Development in cooperation with professional health administrators of a clearinghouse for the exchange of studies of administrative practice.	Lack of administrative knowledge of the appropriate forms of organization and practice.	Development and validation of theoretical frameworks for identifying and describing various patterns followed by people in obtaining medical care, including all of the patients' sources of care, the elements of care for which they are used, and how their use of these sources is related to their total pattern of medical care.
(2) While the health professions have basic systems of licensing and certification, gaps remain in efforts to insure high-quality care. Standards of quality tend to be in an early stage of development for many of the allied health groups, and many new forms of providing.	To stimulate and support research by medical schools, professional societies, voluntary agencies, and other health agencies in the scientific evaluation of the problem of standards for health services and quality of care.	Lack of comprehensive and detailed knowledge of those aspects of medical practice and administration of services that would make possible the assessment of quality.	Development of widely accepted and clearly defined standards for assessing quality, in terms of— (*a*) The perspectives of the different health professions regarding the quality of patient care; (*b*) The perspectives of actual or potential patients; (*c*) The elements of performance; (*d*) The end results. Quality factors in different types of practice and medical care programs: (*a*) Proper staffing patterns for group practice; (*b*) Standards needed to protect the doctor-patient relationship and to assure continuity of care;

PART I. MEDICAL CARE ADMINISTRATION—Continued

National health problems	Division program	Obstacle	Research opportunities
			(*c*) Criteria for referral to specialist versus general clinics; (*d*) Information required on medical records to assist in the provision of good quality medical care. Studies of the essential institutional relationships in the provision of properly ordered medical and health care, such as of the organizational elements and administrative requirements in the delivery of out-of-hospital personal health services. Studies of the influence of various characteristics of patient care organization upon professional practice: for every type of professional practice and institutional services, such as nursing or medicine, how is quality affected by the organization of professions and institutions, by methods of payment, by involvement in teaching institutions, and by regionalization?
(3) Failure to develop the potentialities of health education in all types of medical care programs.	Health education.	The determinants of health behavior, especially with reference to modifying it through health education, are not clearly understood.	Studies of health education and communication as a necessary aspect of the quality of care: (*a*) Studies of what people want and know regarding the quality of care, in order to incorporate in quality standards the factors which determine acceptance of services, and to incorporate in health education programs information that will deepen public knowledge of what constitutes quality care. The improved programs would lead to greater motivation to seek appropriate care, and to greater sophistication in the choice of health care sources. (*b*) Development of a comprehensive theory of health behavior, a set of integrated hypotheses within a behavioral sciences framework, reflecting all the factors operative in health behavior and health education.
		The difficulties experienced by health educators in reaching certain population groups, especially the low socioeconomic groups, is partly due to gaps in knowledge of the attitudes and values of these groups as they affect health.	(*c*) Studies of the level of health information among various segments of the population in relation to specific diseases, their views of etiology, and the extent to which their knowledge of health matters affects their health practice. (*d*) Development of methods and materials of health education, by exploring new areas and environments in which to carry out effective health education, and by determining the types of programs and medical care systems that offer the best potential for pursuing the goals of health education,

		Differences between the attitudes of health professionals and the public toward health make communication between them difficult and affect the quality of care.	(*e*) Identification of the communication problems between the purveyors of health and medical services and the consumers, and studies of the conditions that disrupt optimum communication between the physicians and their patients, such as distortions of perception due to social class, ignorance of medical terminology, and other factors. (*f*) Determination of quacks and fads, and of what constitutes their attraction to a sizable segment of the population. This would disclose the elements which lead to the choice of less high quality care when better care is available.

PART II. COMMUNITY ORGANIZATION (PRIVATE AND GOVERNMENTAL) FOR HEALTH SERVICES

(1) Inadequate organization of existing community resources for the provision of effective health services, producing duplication and overlapping of some services, absence of others, distributional inequalities, and breaks in the continuum of available services.	Technical assistance and consultation to State and community health agencies in improving the organization and coordination of health services.	The present structure of community health services consists of a multiplicity of uncoordinated programs, agencies, and authorities, with fragmentation of responsibility for health services.	Exploration and experimentation with different patterns of organization of health services: (*a*) Experimentation with various community resources serving as the pivotal point for the coordination and integration of total community health services, e.g.: (1) The health department. (2) The community health and welfare council. (3) The areawide hospital planning council. (4) The community hospital. (*b*) Investigation of better ways of providing comprehensive health services in order to assure an unbroken continuum of services needed.
		Organization for health services has not yet been generally recognized as an integral part of urban and suburban planning.	(*c*) Development of sound methodology and principles in overall community and planning and design for maximum health protection for all population groups, with provision for continuous reassessment of health needs in the constantly changing social and environmental settings.
		Capacities of many traditional political and geographical jurisdictions are inadequate for meeting current needs for modern health services.	(*d*) Development of a variety of forms of regionalization and consolidation of health services, and experimentation with different types of jurisdictional boundaries, such as interstate compacts. (*e*) Redefinition of the role of law in the strengthening of health services, and studies of the role o law in urban planning.
	Stimulation of strengthened local community health services.	Inadequate long-range planning by health agencies to meet the total needs of the community in health, due to lack of resources and organization. Inadequate communication between the multiple health agencies of the community and other health resources.	Research into the most effective ways of applying to public health administration the improved administrative and management techniques and procedures drawn from the field of business and industry. Development of various ways by which community agencies and professional organizations could assist private physicians in bringing the full context of scientific medicine to bear on the patient.

Community health services—Continued

PART II. COMMUNITY ORGANIZATION (PRIVATE AND GOVERNMENTAL) FOR HEALTH SERVICES—Continued

National health problems	Division program	Obstacle	Research opportunities
(2) Lack of public and individual understanding and support for organized community health programs.	Health Education and Public Health Administration.	Lack of knowledge of the community factors that affect the support of health services and lack of ways of drawing the public closer to the process of determining health issues that affect the whole community. Lack of knowledge on the part of individuals and agencies on how to proceed for obtaining health services, and overcome public apathy and the reluctance of program administrators to institute changes.	Improved determination of current health needs as they are seen by the public, such as the determination of attitudes and opinions toward health and health services among families and individuals of different ethnic and occupational groups, educational and income levels, in different geographic areas, and the bearing these factors have on community participation in organized health programs. Studies of community decisionmaking processes in the health field: (*a*) Is health a distinct social domain for community decision making, with its own group of initiators and participants? Do these vary for different problems within the general health field? (*b*) Are certain styles of initiation and action best suited for the health field? (*c*) How do people in the community bring their proposals before the constituted local governing groups and negotiate with them?

PART III. HEALTH AND MEDICAL ECONOMICS

National health problems	Division program	Obstacle	Research opportunities
(1) Inadequacies in the methods of financing medical care and other community health services.	Health economics: Development of systems for generating data and identifying gaps in knowledge concerning the delivery and use of health services.	Increased medical costs and prices and gaps in insurance coverage.	Studies on the demand for and utilization of expanded health insurance coverage, on factors that determine choice of coverage, and on reasons for changing coverage. Effects of various specific provisions of health insurance on the utilization of different services and facilities. Impact of price on the demand for health services according to socioeconomic characteristics of families including urban-rural and other geographic variables.
(2) Fiscal problems of expanded public and private programs of medical care.	Preparation of books on expenditures and utilization of various categories of health services.	Inadequate factual and theoretical bases for assessing the effects of financing methods on the utilization, distribution, and quality of care.	Comparative studies of the effect of insurance limited to in-hospital service, and comprehensive insurance including services outside the hospital, on the frequency and timing of houses and office calls requested and on the demand for preventive measures, among families of different socioeconomic backgrounds.

			Costs of all services, medical, surgical, and ancillary, and supplies, in the general hospital with relationships drawn between different levels of cost and staffing and case outcome, patient, progress, etc. The economics of group practice: (*a*) The cost of equipment per physician in group practice clinics employing different numbers of physicians. (*b*) Projections of the cost of new kinds of benefits, including, where appropriate, savings in existing costs in prepaid group practice plans. (*c*) Development of feasible methods for data retrieval of the utilization data generated by prepaid group practice plans. (*d*) Problems and costs of modifying hospital outpatient clinic organization to provide for comprehensive patient care.
	Technical assistance on application of methods for developing and producing data from records of ongoing programs.	Lack of trained personnel with both knowledge of medical care financing and data processing.	Development of methodology for the retrieval of drug therapy data and diagnostic data relating to the nonhospitalized population. The purposes would be both to understand more fully the trends in the characteristics of prescribing and to obtain data useful in expanding prepayment to an area of high cost to some elements of the population.
	Formulation of standard terminology for the application of automatic data processing to medical care data.		Development of standard classifications for demographic data (such as age), clinical data (laboratory tests, X-ray tests), and prescription data (generic name, therapeutic purpose), to promote automatic data retrieval of comparable information.
(3) Lack of knowledge of impact of health expenditures on the national economy.	Relating facts about medical care to the national economy as the necessary data become available.	Lack of agreement on the tools of economics which could be most profitably applied to health economics.	Research on the tools of economic analysis most applicable for determining the efficient allocation of health resources. Measurement of productivity and cost in the health field, and research on the economic return on investment in health services; i.e., the contributions of health expenditures to productivity generally.

Community health services—Continued

PART IV. HEALTH MANPOWER

National health problems	Division program	Obstacle	Research opportunities
Shortage of trained health manpower for providing comprehensive community health services.	Support for the development of the most effective ways of utilizing existing health professional and paramedical personnel for providing comprehensive care.	Rapid population growth, together with an increasing demand for excellence in health care. The greater numbers of personnel needed to provide services, due to specialization and the growth of knowledge.	Determination by medical educators of the changing concept of medical practice that would reflect the relationships between different categories of physicians and between physicians and other health professionals and the newer technical personnel, and that would integrate their contributions into personalized patient care. Studies of the most efficient delegation of duties by physicians and other health professionals to trained assistants, in order to conserve time for the exercise of professional judgment to the maximum benefit of patients, and to make the fullest possible use of the talents of a variety of health personnel. Studies of and experimentation with organizational and staffing patterns of public health agencies, performance requirements and standards, and internal and external working relationships, and the roles and relationships of various professional and paramedical health personnel.
	Encouragement of studies of new methods for preparing health professionals for the practice of comprehensive care in changing social environments.		Identification by medical schools, and their departments of preventive or community medicine in particular, of the best ways in which they can exercise their responsibility for the development of physicians for practice in the new contexts of preventive and rehabilitative medicine and for providing continuing personal care to individuals and families. Expansion of the clinical base of medical school research into the field of medical education and health care, to include studies of and experimentation with programs for continuing research in patient care, identifying the specific skills and types of knowledge required for family and general practice. Development by medical schools in cooperation with voluntary agencies of the best ways of preparing physicians for their role in comprehensive health services, and for acquainting them with the health resources of the community and the functions of other health personnel. Development by medical schools of appropriate criteria and qualifications, in terms of personality, motivation and interest, for the recruitment of various types of physicians, their selection and education.

	Public health traineeship program.	Lack of knowledge of motivation for public health work.	Research on ways of improving the public health orientation of basic medical education, including research on the effectiveness of curricula in the teaching of preventive medicine and public health in present-day institutions which might influence the interest of students in this field. Research on methods of recruitment and training of all types of medical and paramedical personnel, for all types of medical care settings, including studies of the motivation, the social, cultural, and economic characteristics of people entering public health.
	Encouragement of a wide range of qualified public and private institutions to develop continuing education programs for professional and ancillary health personnel.	Increasing rate at which professional training is becoming obsolete and decrease in the relative effectiveness of health practitioners in relative isolation from the rapidly expanding body of health knowledge.	Development of a framework of continuing education for practicing health personnel, involving research and experimentation with the adaptation of information devices and technologies, such as the mass media, teaching machines, and various audiovisual materials, to the needs of health practitioners. Studies in the application of communications theory and technology to community health problems, utilizing the resources of the behavioral sciences, mathematics, and communications engineering.

PART V. HEALTH NEEDS OF SPECIAL GROUPS

Certain groups in the community have special health needs and require particular arrangements in the provision and financing of health services.	Support of health services for agricultural migrants.	Restrictions on and inconsistencies in migrants' eligibility for services. Health worker's lack of methods for developing effective programs for migrants and other low socioeconomic groups.	Research on the health needs of selected population groups, such as the agricultural migrants and schoolchildren. Studies of leadership in the community associations of farm migrants, and of ways of developing leadership elements within the different national or racial groups.
	Promotion of more effective planning for the health needs of migrants.	Lack of effective methods for the local delivery of services to migrants, and community apathy toward their problems.	Action studies to determine effective planning and working relationships which can be established between isolated, intermediate, and metropolitan areas for maximum economy and effectiveness in health services and health protection to all segments of the population.
	Compilation of information regarding existing health programs for school-age children.	Lack of information on the part of migratory workers of available services. Isolation of school health programs from the rest of community health services.	Research into more effective means of communicating health knowledge to defined population groups. Experimentation with a variety of methods of organizing, financing, and providing health services needed by selected population groups and linking them with existing community health programs.

Dental public health and resources

National health problems	Division program	Obstacle	Research opportunities
Inadequate utilization of existing dental services.	Minimize real or perceived barriers to utilization of dental services.	Attitude of profession and public toward— (*a*) Fees. (*b*) Method of payment for professional services. (*c*) Fear of dental procedures.	Research into dental economics. Research into the human dynamics of dental treatment.
Shortage of dental manpower.	Obtain more dental manpower. Make available dental manpower more effective.	Image of dentist. Inadequate dental education facilities. Nonoptimal dental curriculum. Insufficient utilization of auxiliary personnel.	Research into improved recruitment practices for all dental health service personnel. Research into public attitudes regarding dentistry as a profession. Research into functional design for dental facilities. Research into more effective extension of dentis services through greater use of auxiliary personn Research into methods for more adequate preparations of dentists for practice in the community. Research into various team concepts of clinical practice, as applied to various types of dental practices (i.e., urban, suburban, rural).
Inadequate public health dental programs.	Develop increased support and competence for public health dental programs.	Lack of demand and standards for public health dental programs.	Research into community attitudes regarding existing and potential public health dental programs. Evaluation of existing public health dental programs Development of improved methods for providing dental health services. Development of training programs in dental public health research.
Water fluoridation for the control of dental caries is not available for everyone.	Extend benefits of water fluoridation.	Difficulty of communication between public health workers and general public regarding the achievements and safety of water fluoridation. Nonavailability of community water supply.	Research into factors affecting community acceptance of water fluoridation. Research into improved methods of topical application of fluorides.
High prevalence of periodontal disease.	The development of effective public health programs for preventing periodontal disease.	Lack of knowledge that has immediate application to a public health program.	Research into improved methods for mass prevention of periodontal disease.
Inadequate detection of oral cancer.	Increase early casefindings of oral cancer.	Insufficient utilization of screening techniques by dentists.	Research into behavioral and technical factors that affect the utilization of available screening techniques. Research into improvement and application of sensitive and specific screening techniques.
High prevalence of malocclusion and other oral deformities.	Promote prevention and treatment of malocclusion and cleft palate.	Nonrecognition of malocclusion and cleft palate as social problems.	Research into social implications of dental deformity. Research into developing methods for minimizing dental handicaps.

Hospital and medical facilities

National health problems	Division program	Obstacle	Research opportunities
Distribution of hospitals and other medical facilities.	Encourage and support the appropriate distribution of medical facilities through making grants-in-aid to the various States for construction of needed health facilities, research, research and demonstration grants, contracts, provision of consulting services, review and analysis of State plans, development of local areawide planning agencies, review and analysis of national statistics, and providing appropriate guide material.	Population changes. Increasing urbanization. Obsolescence of existing facilities. Availability of needed and specialized medical and paramedical personnel and other resources in certain geographic areas. Changing concepts of "minimum health needs" on part of doctors, patients, etc.	Research into methods for organizing regional, State, and local groups concerned with planning hospital and medical facilities. Development of techniques for assisting existing hospitals to upgrade their facilities (obtain accreditation, etc.). Studies of attitudes, demographic characteristics or other population variables which may affect or determine need for facilities. Development of improved methodologies for determining or predicting above needs. Studies designed to determine whether more facilities are needed or whether more efficient use of existing facilities would meet present and/or projected need. Research into method for promoting desire for a coordinated effort and sharing of service and facilities among hospitals in a service area. Research into hospital organizations to assess possible degree to which services may be: 1. decentralized to effect better patient care, 2. centralized to effect operational economies, and 3. determine optimum balance between 1 and 2.
Inefficient and obsolete design of hospitals and other medical facilities.	Encourage and support the development and incorporation of appropriate architectural and engineering techniques into the design of medical facilities through research, research and demonstration grants, contracts, provision of consulting services, and the development of guide materials.	Resistance to accepting design innovations. Costs of replacing or renovating outmoded and inefficient facilities. Lack of criteria for evaluating effectiveness of facilities as related to costs and quality of patient care. Difficulty in anticipating direction of rapidly changing patterns of medical care.	Design, construction, and evaluation of experimental, prototype facilities. Research into problems of relationships of space and design of facilities specific to the solution of problems, for instance: nursing units, operating suites, pharmacies, etc. Methodological studies designed to produce criteria for evaluating effectiveness of facilities; development of methodologies for determining the extent to which a facility is articulating the solution to problems in the medical care program. Studies of causes of obsolescence, including research on changing patterns of medical care, changing technology, population shifts, community obsolescence, etc.
Utilization of hospitals and other medical facilities.	Encourage and support the establishment of appropriate patterns of health facility utilization through research, research and demonstration grants, contracts, intramural studies, review and analysis of national statis- ; sponsoring and participating in	Lack of suitable alternatives to institutional care. Lack of understanding of factors influencing demand for hospital service. Changing patterns of medical practice. Lack of hospital control regarding admissions.	Studies to refine the concept of progressive patient care. Research on use of long-term illness facilities. Studies of need for specific types of hospital beds. Studies of the affect of attitudes of staff and publi on hospital function. Relationship of socioeconomic, cultural, and demo

Hospital and medical facilities—Continued

National health problems	Division program	Obstacle	Research opportunities
Utilization of hospitals and other medical facilities—Continued	conferences and committees, cooperating with various health service organizations in developing and disseminating information, development of guide materials.	Organizational rigidities among and within hospitals. Transitional factors such as (1) changing concepts of the hospital as a total health center and (2) technological advances conditioning early obsolescence of costly equipment. Inadequate hospital personnel management practices. Economical versus humanitarian principle in operation of facilities.	graphic variables to patterns of use. Research on satellite facilities. Use of outpatient and day-care facilities. Research on long-term-care facilities. Studies of relationships between changing patterns of medical care facilities. Studies of affect of source of payment (e.g. third party versus patient) on patterns of use. Development of educational programs for medical and lay groups.
Costs of institutional care.	To encourage optimum levels of patient care through the most economical means.	Difficulty in recruiting and retaining medical and paramedical personnel. Shortage of personnel with needed skills. Failure to interest young people in health career. Inappropriate utilization of existing personnel. High rates of turnover. Lack of effective personnel management programs in medical facilities. Difficulties of effecting coordination among personnel with widely divergent training and institutional identifications. Inappropriate utilization of facilities. Rapid obsolescence of facilities and costly technical equipment. Increasing sophistication in medical treatment programs requiring expensive drugs, equipment, etc. Lack of coordination of effort and establishment of cooperative arrangements among facilities within a community. Lack of knowledge regarding efficient use of computers in hospital operations.	Research on manpower needs. Motivation and morale studies, including effects of attitudes on performance, etc. Criterion research for selection, placement, training, evaluation, promotion, and retention of personnel. Development of training programs and facilities. Design of programs to attract people to health field. Studies on utilization of personnel. Research on internal organization of services, functions, and people within hospitals and other facilities. Studies concerning the organization of facilities on a communitywide basis. Feasibility of cooperative arrangements among various facilities in a community or region, such as cooperative purchasing, centralization of services such as laundry, elimination of unnecessary duplication of services, etc. Research in applications of automation to reduce costs and/or increase efficiency of both the administrative and medical programs within institutions. Development of cooperative, centralized, automated services. Research on construction, operation, and maintenance costs.
Insufficient scientific assessment and study of problems affecting hospitals and other medical facilities.	Stimulation and support of both intramural and extramural research, experiments, and demonstrations relating to the design, operation, and administration of hospitals and other medical facilities. The Division's program is directed toward the effec-	Lack of trained researchers. Difficulties inherent in multidisciplinary research. Lack of resources for conduct of research. Lack of understanding regarding interrelationships of medical care effectiveness and organizational setting in which care is	Encouragement and development of academic programs for training of health facility researchers. Development of programs to attract competent researchers to the health facility field. Development of feasible methods for obtaining reliable and valid statistical, demographic data on large samples of hospitals, patients, etc.

	tive development and utilization of all hospital services, facilities, and resources.	provided. Lack of adequate communications among researchers and between researchers and practitioners. Lack of resources for training researchers. Costs to hospitals and lack of coordination among hospitals in collecting needed research data.	Studies on increasing community awareness of the need for and the benefits of research on health care facilities. Research on the roles of various disciplines in health facilities research.

Nursing

National health problems	Division program	Obstacle	Research opportunities
Inadequate supply of professional nurses to meet increasing demands.	Continuing assessment of needs and resources through collection and analysis of manpower data. Nationwide program to stimulate, strengthen, and enlarge the scope of recruitment activities in local areas. Attracting inactive nurses back into practice—appropriate assistance to hospitals and other health agencies with programs of recruitment and refresher courses based on information (from national sample) regarding characteristics of inactive nurses and the conditions under which they would return to work.	Reduced percentage of high school graduates entering nursing due in part to an increasing number of attractive opportunities in other scientific and educational fields. High rate of dropouts during educational programs. Wide fluctuations in availability of nurses in different parts of the country. Economic status of nursing—low salaries and limited advancement. Outmoded public concept of nurses and nursing which still visualizes the nurse as she functioned in an era of relatively simple medical care.	Studies of the dynamics of nursing; motivation to enter nursing; recruitment; career patterns; and cultural, social, and psychological variables which influence these processes. Included are reasons for dropout and withdrawal from nursing school; comparative information regarding competing occupational opportunities; factors affecting the demand and supply in nursing; the extent to which lack of understanding of modern nursing limits recruitment; and failure to attract more men into the profession.
Inadequate preparation of professional nurses: Basic education.	Technical assistance and consultation to schools of nursing, and to agencies and associations concerned with nursing education.	Variety of educational patterns for nursing. Rapidly changing demands due to (1) advances in medical and related sciences and (2) changes in administration and delivery of services. Shortage of qualified teachers.	Information is needed to— Know how best to prepare students with sufficient knowledge of scientific principles to understand new developments and their meaning for nursing practice and for responsibilities as supervisors of auxiliary nursing personnel. Determine how to extend instruction and supervision by television, programed instruction, other teaching techniques.
For new fields of specialties such as restorative nursing, heart surgery, etc.	Contracts for specialized training. Project grants (Community Health Services and Facilities Act.)	Scientific breakthroughs and consequent changes in technical procedures and practice occurring faster than can be incorporated into basic education.	Investigate methods of teaching the nurse practitioner wherever she may be employed.

Nursing—Continued

National health problems	Division program	Obstacle	Research opportunities
For teaching, administration, and supervision (large numbers of auxiliary personnel need supervision. Nursing service demands administrative skills in all types of agencies.)	Professional nurse traineeship program.	Vast numbers currently employed in jobs for which they are not prepared. Limited resources for preparing teachers to increase the nurse supply.	Prove or disprove the need for additional preparation for care at each level of nursing. Evaluate the effectiveness of teaching.
Need more nurses interested in and capable of investigation of problems crucial to the improvement of nursing practice.	Nurse pre- and post-doctoral fellowship program. Nurse-scientist graduate training grants.	In an occupation where the overwhelming majority is needed for service, it is very difficult to recruit for research. Nurses need more preparation in the basic sciences. Few centers with prepared faculty and necessary facilities. Lack of methods for reaching nurses with research interest and potential. Many more nurse researchers will be required to even begin investigation of the critical problems outlined in this chart.	Identify and nurture creative talent and scientific ability. Research into the content of curriculums for the identification of a common core basic to the preparation of researchers. Delineate possibilities for guided experience for the beginner. Promote and develop methods of communication of research results.
Quality of nursing care: Need to improve nursing practice.	Provision by both headquarters and regional nursing consultants, of technical assistance and consultation based on the experience and findings of studies conducted by the Division and by others. Development and implementation of intramural research, and cooperative studies with hospitals and local health agencies, to evaluate and improve nursing care. Preparation and distribution of guides, manuals, and reports to improve nursing practice. In selected instances, loan or personnel for a specific purpose. Assistance in communicating to the profession, results of research with implication for nurses and nursing.	Many unknowns in nursing, as (1) elements of patient care (not sufficiently understood); (2) amount of nursing care necessary (not known); (3) valid criteria of nursing practice (tools for measuring not available); (4) changing types of nursing care needed (resulting from advances in medical care). Difficulty in identifying and measuring these unknowns: same difficulties as all clinical research with human beings. Widening gulf between nursing care needed and nursing care received: incompatabilities in existing knowledge and quality of care. Dearth of clinical specialists in nursing; heirarchy, which recognizes ability primarily by advancement in administrative line discourages development in clinical specialties, limited. Limited opportunities and support, and little incentive, for this needed preparation in depth.	Questions about patient care which need to be answered include— What are the indices and criteria of patient welfare? How can nursing care be measured? How can nursing practice be evaluated? How can nursing functions at various levels of care be delineated? Of what significance are nurse-patient relationships? How will these be affected by electronic devices that record patient's symptoms? What are patients' reactions to nursing procedures? What effect do nurses and their actions have on patients' behavior? What is the most effective method of keeping the practicing nurse currently informed of changes in care?

		Poor facilities and unsafe care in many nursing, convalescent, or rest homes and similar nursing care establishments. Poor utilization of available nursing personnel and facilities.	How much supervision, what type, and by whom, is a minimum for safe care? What values are put on clinical specialties as compared to administrative positions? What organization pattern provides the most economical and safe care?
Organization—Administration. Discrepancy between traditional patterns and modern requirements for the delivery of nursing service— In hospitals. In nursing care facilities. In health agencies. In the family home.	Technical assistance and consultation in analyzing current patterns, identifying problem areas, and improving administrative practices in nursing: organizational structure, job assignment, communications, and use of modern technology.	Rapid growth and uneven distribution of population, ill and well. Lack of proportionate distribution of nurses and nursing service.	Among problems which need systematic study are— Administrative practices and policies; their purposes in modern health care. Ways in which nursing services can be delivered to hospital, home, and community.
	Studies, demonstrations, and publications, with emphasis on effective utilization of personnel in all areas. Project grants (Community Health and Facilities Act).	Large number of institutions with great variety in size, programs, ownership, and administration. Difficulty in adapting findings of industry regarding successful management of large complex organizations, to hospitals which have some similarities but many differences in operation. Resistance of nurses whose interests and skills are in human relations, to learning about and adopting complicated equipment and techniques of automation. Multiplicity of different occupational groups with which nurses must work. Changes in physicians' work patterns, which affect nursing practice.	Motivation of individual and community for health services. Interagency and interpersonal roles. Evaluation of needs, services, and needs in relation to services: Geographically, by type agency, by intensity of local needs. Optimal utilization of personnel, facilities, equipment, including techniques of automation and patient monitoring devices. Multidisciplinary approaches to specific areas of patient care. Exploration of ways in which the nursing profession and other health professions and occupations can work together.
Increasing number of chronically ill at home.	Consultation to State and local health agencies to help plan public health nursing and related services to meet community needs.	Absence of, or inadequate programs of nursing care for the sick at home; where available, weak (or lack of) referral systems limit their full utilization.	Determination of the effects of nursing care upon the patient at home—his recovery and the prevention of recurrent illness. Determination of the kinds of patients which can be cared for by various types of nursing personnel, public health nurse, registered nurse, practical nurse, nursing aid. Evaluating costs of care at home and in institutions related to restoring the patient and/or members of the family as functioning members of the community.

WEDNESDAY, FEBRUARY 19, 1964.

ACCIDENT PREVENTION

WITNESSES

DR. PAUL V. JOLIET, CHIEF, DIVISION OF ACCIDENT PREVENTION

DR. AARON W. CHRISTENSEN, DEPUTY CHIEF, BUREAU OF STATE SERVICES

BACEL E. LONG, EXECUTIVE OFFICER, DIVISION OF ACCIDENT PREVENTION

EUGENE L. LEHR, DEPUTY CHIEF, DIVISION OF ACCIDENT PREVENTION

JOHN W. HAMBLETON, FINANCIAL MANAGEMENT OFFICER FOR COMMUNITY HEALTH PROGRAMS

DR. LUTHER L. TERRY, SURGEON GENERAL

HARRY L. DORAN, CHIEF FINANCE OFFICER

JAMES F. KELLY, DEPARTMENT BUDGET OFFICER

Object classification

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
11 Personnel compensation:			
Permanent positions	1,080	1,201	1,034
Positions other than permanent	129	92	73
Other personnel compensation	1	6	3
Total personnel compensation	1,210	1,299	1,110
12 Personnel benefits	107	126	109
21 Travel and transportation of persons	132	146	132
22 Transportation of things	9	15	15
23 Rent, communications, and utilities	37	40	32
24 Printing and reproduction	12	15	15
25 Other services	43	67	67
Services of other agencies		1	1
Research contracts	300	203	460
Payment to—			
Bureau of State Services management fund	40	118	120
National Institutes of Health management fund	23	27	27
26 Supplies and materials	41	40	35
31 Equipment	38	40	37
41 Grants, subsidies, and contributions	1,647	2,046	1,663
Total obligations	3,638	4,183	3,823

Personnel summary

	1963 actual	1964 estimate	1965 estimate
Total number of permanent positions	147	153	121
Full-time equivalent of other positions	26	23	17
Average number of all employees	163	167	132
Employees in permanent positions, end of year	139	147	121
Employees in other positions, end of year	32	48	36
Average GS grade	8.6	8.6	8.6
Average GS salary	$7,619	$8,131	$8,346

Program and financing

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
Program by activities:			
1. Research grants	1,647	2,046	1,663
2. Research, training, and technical services	1,793	2,137	2,160
Total program costs, funded [1]	3,440	4,183	3,823
Change in selected resources [2]	198		
Total obligations	3,638	4,183	3,823
Financing:			
Comparative transfer from other accounts		−2	
Unobligated balance lapsing	26		
New obligational authority	3,664	4,181	3,823
New obligational authority:			
Appropriation	3,668	4,163	3,823
Transferred to "Operating expenses, Public Buildings Service," General Services Administration (76 Stat. 728)	−4		
Appropriation (adjusted)	3,664	4,163	3,823
Proposed transfer from "National Heart Institute" due to Uniformed Services Pay Act of 1963		18	

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[1] Includes capital outlay as follows: 1963, $29,000; 1964, $30,000; 1965, $41,000.

[2] Selected resources as of June 30 are as follows: Unpaid undelivered orders, 1962, $214,000 (1963 adjustments, −$3,000); 1963, $409,000; 1964, $409,000; 1965, $409,000.

Mr. FOGARTY. We now have before us accident prevention.

GENERAL STATEMENT

Dr. Joliet, do you have a statement for the committee?

Dr. JOLIET. Yes, I do, sir.

Mr. FOGARTY. All right, go right ahead.

Dr. JOLIET. Any study of what is killing and hospitalizing people will show that injuries are a prime cause. This problem is increasing each year. Last year (1962) there were 97,000 deaths; this year (1963) there were 101,000. The plans and activities supported by this appropriation are directed toward bringing the injury problem under control. This can be done. We know now that accidents are not inevitable. We know also that the type of protection needed is frequently one that the citizen is unable to provide for himself. Governments can, and in many cases, must, provide this service.

On the highway people may be endangered in many ways by drivers. A normally safe driver may frequently be affected by drugs, alcohol, fatigue, or emotions, or a driver may be simply incapable or irresponsible. To protect people on the highway and assist drivers with their problems, we must find out what affects driving abilities and put these findings to use. This is the purpose of our research in traffic safety. This is why a driving simulator is so essential. A new record of 43,000 motor vehicle deaths estimated for 1963—an increase of 2,000 over 1962—reemphasizes the need for improved protection for our driving public.

Our immediate program gains have been in reducing injuries in and around the home. For example, in Mississippi County, Ark., by concentrating on injuries from fires and explosives, we reduced them by over 50 percent; in Charleston, S.C., we reduced hospital cases of poisoning in children by 27 percent; in Cleveland, Ohio, we reduced home injuries, except falls, by 40 percent. With the cooperation we are getting from industry, we expect real progress to be made in reducing the severe injuries inflicted by rotary lawn mowers. Similarly, we are very optimistic about reducing fire injuries when flame retardant fabrics now being developed are more widely used.

From these special projects we have made findings and developed methods that can be applied in all areas of the country. This we plan to do.

Many health emergencies, illnesses as well as injuries, however, will always arise which require the prompt service of well-equipped ambulances with well trained attendants. This aspect of health services we are also concerned with. Our preliminary work in this field has confirmed the opinion of organized medicine that, in general, the quality of emergency care needs to be considerably improved. When survival often depends upon immediate on-the-scene care, steps need to be taken to be sure that this care is available.

The total 1965 estimate is $3,823,000 and 121 positions. The fundamental changes in this appropriation from 1964 to 1965 are a reduction of 32 positions and $299,000 in the home injury program, a reduction of $383,000 in the research grants program and an increase of $283,000 in the traffic injuries program, primarily for the continued development of the diving simulator.

Mr. Chairman, I shall be glad to answer any questions about this program and the budget request.

Mr. Fogarty. Thank you, Dr. Joliet.

REDUCTIONS IN 1965 BUDGET

The amount available for 1964 is $4,183,000 and the request for 1965 is $3,823,000 or a reduction of $360,000 and 32 positions.

Dr. Joliet. Yes, sir.

Mr. Fogarty. Just what is this reduction going to mean?

Dr. Joliet. Well, we will be able to go ahead and carry on a balanced program with the amount of money that we have available.

Mr. Fogarty. What about your home accidents program?

Dr. Joliet. We will be able to carry out some of the activities in the area of home injury prevention.

Mr. Fogarty. Would you call that a balanced program in the home injury prevention area?

Dr. Joliet. I meant balanced in the sense we will be able to carry out all aspects of injury prevention, including home, but home will be cut approximately in half.

Mr. Fogarty. That is what I understood. I don't know how you are going to carry on a balanced program when your funds are cut in half.

I think that this is one of the worst examples of trying to save money that I have seen in the Public Health Service.

Accident prevention has been given more attention by legislative committees in the last 4 or 5 years in the Congress than ever before. I thought in this area, we were starting to get a pretty good program set up, and here we come along with a reduction of $360,000 and 32 positions. I just don't agree with you when you say you can carry on a balanced program with this amount of money.

I think that you should be increasing the amount and doing more to get somewhere near in balance.

RESEARCH GRANT PROGRAM

You are not only cutting down on personnel, but you are cutting way back on research grants. According to the justification, you will only be able to approve nine new grants this year, is that right?

Dr. JOLIET. That is right.

Mr. FOGARTY. That is getting down to almost nothing.

How many approvable applications do you expect?

Dr. JOLIET. This year?

Mr. FOGARTY. Yes.

Dr. JOLIET. About 60 or 65. Yes, sir. The approval rate is approximately one-third, however.

Mr. FOGARTY. What is that.

Dr. JOLIET. Of the total submitted, approximately one-third are funded.

Mr. FOGARTY. And how many have been submitted?

Dr. JOLIET. I am not sure at the moment. We have one study section left to go. You will remember at this time last year, we couldn't give you the final figure, because one study section hadn't met. We don't know how many will be coming in for the remaining study section this year.

Mr. FOGARTY. All right. Now, tell us what is going to happen in 1965?

Dr. JOLIET. Well, we will be able to fund a total of 35 instead of 45 grants.

Mr. FOGARTY. Does that include the carryover from 1964?

Dr. JOLIET. Yes, we will be able to continue to carry over the whole thing. Nothing will be discontinued. We will have approximately 10 fewer grants.

Mr. FOGARTY. So we get right back to that figure. The money you have budgeted will only take care of about nine new grants in 1965?

Dr. JOLIET. That is correct, sir.

Mr. FOGARTY. This is a bigger reduction than I thought. You can't justify a balanced program with this kind of a budget. I know you are trying to do your best, but I think this is one of the worst budgets we have had so far.

DRIVING SIMULATOR

The only item of program increase you have is for research and development of a driving simulator.

Dr. JOLIET. Yes, sir.

Mr. FOGARTY. How much has been spent on this so far?

Dr. JOLIET. About $320,000, sir.

Mr. FOGARTY. What are you going to spend in 1965?

Mr. LONG. It would be $440,000 for 1965.

Mr. FOGARTY. What is the eventual cost going to be, including construction?

Mr. LONG. We estimate it—and our estimate hasn't changed—approximately $4½ to $5 million.

Mr. FOGARTY. Is this the same estimate we had 4 or 5 years ago?

Mr. Long. Yes, when it first came up.

Mr. Fogarty. Are others contributing or expected to contribute in bearing this cost?

Dr. Joliet. No, we have no other outside source of funds in this program at this time. We have other people interested in using the instrument, once it is developed, or the procedure, once it is developed.

Mr. Fogarty. Some discussion took place in this committee a year or two ago about the Department of Commerce and the Bureau of Roads contributing something to the cost of this simulator. I think that was one of the reasons the original request was knocked out of the bill, because they thought the Bureau of Roads ought to share some of the costs.

Dr. Joliet. Well, we would be glad to get funds from any source. The Bureau of Public Roads will undoubtedly be doing work on the devices. I am sure that several devices would ultimately be necessary.

POISON PREVENTION PROGRAM IN RHODE ISLAND

Mr. Fogarty. Are you familiar with some of the progress that has been made in my State, the State of Rhode Island, in poison prevention programs?

Dr. Joliet. It just so happens I have a small amount of information about it.

Mr. Fogarty. As you know, the college of pharmacy at the university has been designated one of the three poison control centers in Rhode Island, and they have been very active. Dean Youngken, who is considered to be an outstanding pharmacist, is dean of the school of pharmacy, and he has been spending a great deal of time in this area. We have Poison Prevention Week that was declared in Rhode Island. Are these things worthwhile? It has the support of the State health department and the State pharmaceutical association and the State university.

Dr. Joliet. I don't speak for other national days or other national weeks. I speak only to the question that you asked me about Poison Control Week. We think it is tremendously valuable. It involves industry, those that make chemicals, those that make drugs, ourselves, the poison control centers and organized medicine for a period of 3 or 4 months before the week begins, preparing materials. Then, when the materials are prepared, they are distributed widely by State and local health departments and by all other parties. We do believe that Poison Prevention Week has an impact that, of course, goes up sharply immediately after the week and then tapers off. We don't believe that it tapers off down to the baseline again; so we have been very happy and pleased with Poison Control Week. It was approved, as you know, by Congress. We received one request yesterday—I was told by Mr. Verhulst—for about 350 packets from 1 State.

Mr. Fogarty. Well, do you know anything about the activity in Rhode Island, and if you do, what do you think about it?

Dr. Joliet. It is an experimental program and so far, it gives great promise. Under your State health officer, Rhode Island has received from us the loan of one person, Mr. York, who is carrying on a statewide program directed to preventing poisonings in the first place, in addition to the treatment of poisonings which is carried out in poisoning control centers.

I am informed that the program is going forward. They have tremendous demands for talks, speeches, and demonstrations. One very good demonstration was presented at the American Public Health Association last fall. A great amount of publicity is going forward in the State of Rhode Island in the attempt to prevent poisoning. There are three sample areas now, the approach being different in each one. Which approach may ultimately work out to be the best, we don't know.

Mr. Fogarty. Where are the others?

Dr. Joliet. There is one just starting in Wichita, Kans., and the other is in Charleston, S.C., sir.

Mr. Fogarty. Who was responsible for these programs in these cities, Wichita and Charleston?

Dr. Joliet. We initiated them, sir.

Mr. Fogarty. Who is running them? The State department of health?

Dr. Joliet. The State department of health is running the one in Rhode Island. The one in Charleston is being run in conjunction with the State health department and the city health department in Charleston. The one in Kansas is a cooperative effort between the State health department and the health department of Wichita, Sedgewick County.

BROCHURE ON POISONOUS PLANTS

Mr. Fogarty. Do you know anything about the brochure entitled "Poisonous Plants of New England" that Dean Youngken has compiled?

Dr. Joliet. Yes, it gives me pleasure to give you factual information about this. The information is highly complimentary to this publication. I understand that the brochure will be an excellent and an authoritative publication and will not only help Rhode Island, but also the entire United States, especially the Northeastern United States. I am informed that Dean Youngken is an authority and that the publication, when it comes out, will be of assistance to very many people.

Mr. Fogarty. Is there any problem of Federal funds in having this printed or published?

Dr. Joliet. Not for this project, sir. This one will be funded.

Mr. Fogarty. It will.

Dr. Joliet. Yes, sir.

Mr. Fogarty. I will place in the record these letters I received from Dr. Cannon, Dean Youngken and the Rhode Island Pharmaceutical Association.

(The letters referred to follow:)

State of Rhode Island and Providence Plantation,
Department of Health,
Providence, January 27, 1964.

Hon. John E. Fogarty,
House Office Building,
Washington, D.C.

Dear Congressman Fogarty: As you know, the Division of Accident Prevention of the Public Health Service has assigned personnel to the department of health to carry on a home safety program. The program is primarily educational and much emphasis is being directed toward reduction of accidental poisoning.

During the first year of operation many significant facts have been accumulated and it is in regard to one of these that I am writing.

Of the total accidental poisonings reported to the poison control centers located at Rhode Island Hospital, Pawtucket Memorial Hospital, and the University of Rhode Island, almost 6 percent were due to the ingestion of poisonous plants. Although this percentage is relatively small, the problems presented by these ingestions are great. The major problem in the treatment of a person who has been poisoned by plant life is the rapid identification of the plant involved. While all of our poison control centers have books on poisonous plants illustrated in black and white and described in botanical terminology, our study has found that these books are of little value in aiding the attending physicians.

Recognizing this problem, the staff of our safety program and faculty members of the University of Rhode Island School of Pharmacy have developed a unique brochure illustrating in color the poisonous plants common to New England. Not only will this brochure prove to be a significant asset to the physician faced with the problem of rapid identification, but also it will be of great value in our school and adult educational programs.

Mr. Henry L. Verhulst, Chief, Poison Control Branch, Division of Accident Prevention of the Public Health Service, has included in his budget request an item which would allocate funds for the printing in color of this brochure. When your Appropriations Committee considers this budget request, I sincerely hope that it will receive committee approval.

With kind personal regards, I am,

Sincerely yours,

Joseph E. Cannon, M.D., M.P.H.

College of Pharmacy,
University of Rhode Island,
Kingston, R.I., January 23, 1964.

Congressman John E. Fogarty,
House Office Building,
Washington, D.C.

Dear John: As you may know, our college of pharmacy has been designated one of the three poison control centers in the State of Rhode Island under the program of the National Clearing House for Poison Control Centers of the U.S. Public Health Service. We have been very active with this program since its implementation a few years ago.

One of our many projects includes the preparation of a booklet on "Poisonous Plants of New England," a publication which will contain several illustrations in color of common poisonous plants in Rhode Island and other New England States. The illustrations will be supplemented with descriptive information, including that of use to parents and physicians as concerns plants which are known to be harmful to children. You may recall that a fatality occurred in our State 2 years ago when a young child ingested parts of the common pokeweed.

Mr. Yob York, a representative of the U.S. Public Health Service attached to the poison educational program of our State health department, and Dr. Joseph Karas of the poison control center, Rhode Island Hospital, are collaborating with me on this publication.

I am writing to you about this in hopes that you will support as much as possible the budgetary request which will soon be presented to you in connection with the National Clearing House program. We have requested support in the amount of about $2,000 for this publication from the above poison control agency and Mr. Louis Verhulst, director, has been very receptive to our request. I do believe that the booklet will be of excellent use to the citizens of Rhode Island and other States and will represent a worthwhile contribution to the special poison project in Rhode Island which is now being sponsored by U.S. Public Health Service.

Should you need more detailed information regarding our project, please let me know.

Cordially,

Heber W. Youngken, Jr., *Dean.*

RHODE ISLAND PHARMACEUTICAL ASSOCIATION,
Providence, R.I., February 7, 1964.

Congressman JOHN E. FOGARTY,
House Office Building,
Washhingon, D.C.

DEAR CONGRESSMAN FOGARTY: As you are very well aware, the Rhode Island Pharmaceutical Association, in conjunction with the Department of Public Health of the State of Rhode Island, has been very active in educating the citizens of our State in reference to poison prevention. Our association has supported in many ways Rhode Island Poison Prevention Week and National Poison Prevention Week.

Dr. Heber W. Youngken, Jr., dean of the College of Pharmacy, University of Rhode Island, has compiled a brochure entitled "Poisonous Plants of New England," which I understand is subject to approval of Federal funds for the purpose of publishing the same for public distribution.

It is my understanding that Dean Youngken's brochure is the first of its kind in New England and will be of great assistance to poison control centers, physicians, pharmacists, and others in making rapid identification of the plant ingested for emergency treatment.

The Rhode Island Pharmaceutical Association is convinced that Dean Youngken's brochure will be invaluable in educating adults and children to identify poisonous plants and will serve as a great asset to physicians and pharmacists in emergency treatment.

Our association, therefore, endorses the proposed brochure "Poisonous Plants of New England" and urges you and your committee to approve an appropriation of Federal funds for its publication.

Very truly yours,

CHARLES BUTTERFIELD, Jr.,
Executive Director.

TRAINING FOR AMBULANCE SERVICE ATTENDANTS

Mr. FOGARTY. You mentioned in your prepared statement about ambulance service and importance of well-trained attendants in connection with automobile accidents.

Dr. JOLIET. Yes, sir.

Mr. FOGARTY. What are you doing about this? I think we mentioned this a year or two ago. I know in my State—and I assume in most States—almost every volunteer fire department today has an ambulance or a first-aid car even in real small towns in the rural areas. They, generally, are called out first in case of serious accidents of any kind. The nearest fire station is called and they respond.

Are you doing anything to try to develop standards or recommendations of any kind that will help the volunteer fire department?

Dr. JOLIET. Anybody that cares for injured people are the direct——

Mr. FOGARTY. Some of them don't have ambulances. They call them first aid cars or rescue trucks, but they have all the first aid equipment on them.

Dr. JOLIET. Yes, sir; these are the people we like to get to. The voluntary emergency crews about which we know are very good. The quality of care, though, across the country is quite spotty on the basis of evidence that we have available. In the vast majority of places, the vehicle itself may be faulty and not adequate to carry people on stretchers. It may be poorly equipped, and, worst of all, the attendants may have no training in first aid at all.

Mr. FOGARTY. Most of this equipment about which I know personally has been bought in the past few years. Most of it is new. From what I have seen, the equipment is good.

Are you going to do anything to try to help these people insofar as training is concerned? Is there anybody in the States that can be of some help to these volunteers?

Dr. JOLIET. We have assisted in establishing training programs in Maryland, North Carolina, etc. We have plans to assist in setting up training programs in very many States working with State medical societies. We are particularly interested in obtaining logistics on the kind of injured people that are transported so that we will be able to improve the training courses offered. Beyond that point, sir, we are interested in getting minimal standards set up for people who will be giving care and using the equipment so that they will know how to do what they are doing. In this, we work actively with the organization concerned, the rescue organizations, the national associations, and the American Medical Association.

Mr. FOGARTY. I thought Rhode Island would be a natural for that. It is so small and compact.

Dr. JOLIET. Well, you assured me that the service there was so good last year that we didn't worry too much about it.

Mr. FOGARTY. It is good, but I am not satisfied with that. I want it to be the best.

Dr. JOLIET. I think it would be safe to say that Rhode Island would get its fair share of our attention.

Mr. FOGARTY. You know in the Bureau of Labor Standards they do quite a bit of this training of safety inspectors. When they were here last week, they showed some tremendous advances in safety programs in industry all over the country, the Maritime industry for example. They go out where there is a very high rate of injury in one particular area and concentrate on that as a project. The results, generally, are real good. We have always thought that was a real good way of spending money, to train the State safety inspectors so they can go out in the plants and recognize the problems in the plant and also give training programs in the State.

If you had more money, you could do more of that, couldn't you?

Dr. JOLIET. Oh, yes; that is what we would propose to do.

Mr. FOGARTY. Do you have any plans for next year for going into any additional States and giving this sort of training or help?

Dr. JOLIET. We are concluding the San Francisco program about June, sir, and we are dealing actively with State medical societies and the organizations that represent the rescue squads and ambulances, in accordance with their desires to set up training programs. The mechanics are different, depending upon what the various States want to do. For instance, Pennsylvania differs from North Carolina, and they both differ from Maryland.

Mr. FOGARTY. What other plans do you have for next year? With this budget, I don't know how you can do much, really.

DEVELOPMENT OF STANDARDS

Dr. CHRISTENSEN. In this one point, there are plans for the development of standards. I think as they gather the additional material from these various groups they will find out what is missing and eventually arrive at a stage where standards of care can probably be established either by the local people or by the State people in terms of emergency care. I think this will be a great step forward when they get to this particular stage.

ACCIDENT PREVENTION PROGRAMS OF OTHER DEPARTMENTS

Mr. FOGARTY. Every once in awhile the question comes up of possible duplication of effort in accident prevention programs. We have one in the Bureau of Labor Standards of the Department of Labor, and the Bureau of Mines, and I suppose other departments. What is the answer when Members say, "Oh, there must be a lot of duplication in this field?" What is your answer to that?

Dr. JOLIET. Our efforts are directed to local and State health departments and what they are able to do in accident prevention activities and nobody else works with State and local health departments. We have a total of 50 State health departments.

Mr. FOGARTY. You mean the Bureau of Mines wouldn't in the States of West Virginia or Pennsylvania?

Dr. JOLIET. Only indirectly, sir. We stay out of the occupational health area ourselves. We don't get into the Bureau of Mines area. We work directly with the health departments. I would like to mention that there are some 50 State health departments and 1,591 local health departments. In the State health departments, there are approximately 23,000 professional people engaged full time in health activities. In local health departments, there are 46,000 full-time people engaged in health conservation activities. Our efforts are to mobilize these two groups against assaults on health that are induced by accidental injury. I can, if I may, briefly give you results of this effort, not involving duplication. No one else is working with them on accident prevention.

In 1959, there were 18 States that reported accident prevention activities. In 1964, there were 48 States and territories that reported accident prevention activities. There were a total of 20 people, only, in 1959 engaged in accident prevention activities in State health departments. In 1964, there were 129 people engaged full time in accident prevention activities. So, characteristically, the Public Health Service has been working with State and local health departments to improve health conservation. We have been working very, very successfully with State and local health departments, especially in the area of family or home injury prevention, mobilizing this tremendous number of people and this tremendous number of organizations already in operation, to bring their resources to bear in decreasing the number of accidental injuries that occur; if that is an answer to your question.

DIFFERENCES BETWEEN STATE ACCIDENT PREVENTION PROGRAMS

Mr. FOGARTY. What States are doing the poorest job in accident prevention?

Dr. JOLIET. Well, the big problem for public health, generally speaking, is in the sparsely populated States in the Midwest and Far West. I defer to Dr. Terry about this, however.

Mr. FOGARTY. Well, that isn't quite so, because my State had one of the poorest health departments in the country, I think, up until a couple of years ago, and that is the most densely populated State in the country.

Dr. JOLIET. There are, I guess, a minimal number of people engaged in public health activities on a population basis in some of the New England States, but some have good health departments. There are vast areas of the Midwest that have State health department activity but very little local health department activity because of the low density in population.

Dr. CHRISTENSEN. The organization of the health services varies from State to State. In some of the States where we have strong State health departments there are fairly strong local health departments. In other States there are not as strong State health departments, and at the same time, the voluntary agencies in some cases and the medical society and in other cases the official, local health groups have banded together in such a way that they are able to deliver a fairly good quality of health services. It does vary a good bit, and the organization itself does vary.

Mr. FOGARTY. My State is coming along pretty well now, but I was ashamed of it for years.

Dr. CHRISTENSEN. Rhode Island has a very strong health department at the present time.

Mr. FOGARTY. This is the first time we had a full-time health officer. That is why we are going places now.

ACCIDENT PREVENTION PROGRAMS OF OTHER DEPARTMENTS

Dr. JOLIET. Did I answer your question about duplication of service?

Mr. FOGARTY. I thought so. I don't know much about the Bureau of Mines in that connection, but I know something about the Department of Labor work in this area. I don't think there would be any duplication there.

Dr. CHRISTENSEN. We have very nearly a daily working relationship with the Bureau of Public Roads and also with the Department of Agriculture which relates to their particular program. As a result of this, I think there is very little, if any, duplication as far as total efforts are concerned.

Mr. FOGARTY. Prepare a comprehensive statement on this and we will put it in the record.

(The statement referred to follows:)

BRIEF DESCRIPTION OF RESPONSIBILITIES DIRECTLY RELATED TO SAFETY AND ACCIDENT PREVENTION

CIVIL AERONAUTICS BOARD

Title VII of the Federal Aviation Act of 1958 makes the Board responsible for investigating aircraft accidents and incidents involving civil aircraft of U.S. registry and accidents involving civil aircraft of foreign registry that occur in the United States or its possessions. It is the duty of the Board to: (*a*) Make rules and regulations governing notification and report of accidents involving civil aircraft; (*b*) investigate such accidents and report the facts, conditions and circumstances relating to each accident and the probable cause thereof; (*c*) make such recommendations to the Administrator of Civil Aeronautics as, in its opinion, will tend to prevent similar accidents in the future; (*d*) make such reports public in such form and manner as may be deemed by it to be in the public interest; and (*e*) ascertain what will best tend to reduce or eliminate the possibility of or recurrence of accidents by conducting special studies and investigations on matters pertaining to safety in air navigation and the prevention of accidents.

FEDERAL AVIATION AGENCY

The Federal Aviation Act of 1958, among other Agency responsibilities, provides for the regulation and promotion of civil aviation so as to foster its development and safety and to assure the safe and efficient use of the air space by both civil and military aircraft.

The responsibilities and activities of the Federal Aviation Agency in the field of safety and accident preventions are not identified specifically in budget justifications to the Congress, because enhancement of safety in all aspects of aviation is an inherent part of most of the Agency activities. Therefore, the Agency's safety and accident prevention efforts are divided into two categories. The first covers those activities performed primarily in the interest of maintaining safety in flight and what are directly concerned with the development and administration of safety standards, rules and regulations that apply to airmen, aircraft, and their maintenance and operation.

The second category involves procurement, installation, operation, and maintenance of the Nation's air navigation and traffic control system as well as research and development support for the Agency's overall mission to provide for safe and efficient movement of civil and military air traffic. This more generalized category obviously is largely concerned with safety and accident prevention, but it is not considered to represent the Agency's primary effort in this field.

INTERSTATE COMMERCE COMMISSION

The Commission, pursuant to the national transportation policy, contained in the Interstate Commerce Act, has as a primary responsibility the promotion of safety in domestic surface transportation with respect to those carriers subject to the provisions of the Interstate Commerce and related acts. In accordance with authority contained in these acts, the Commission establishes rules and regulations designed for the promotion of safety and prevention of accidents in the field of transportation of persons and property, and then undertakes inspection and other programs to obtain compliance with the rules and regulations. The following programs carry out these responsibilities.

1. Bureau of Motor Carriers:
    (*a*) Section of Motor Carrier Safety.
    (*b*) Section of Field Service.
2. Bureau of Safety and Service:
    (*a*) Section of Locomotive Inspection.
    (*b*) Section of Railroad Safety.

U.S. DEPARTMENT OF COMMERCE, BUREAU OF PUBLIC ROADS

The Bureau of Public Roads is currently engaged in a diversity of activities in the highway safety and/or traffic accident prevention field. Basically, the work separates rather naturally into safety research and development and safety operations. These functions are performed respectively by the Office of Research and Development and the Office of Highway Safety.

The Office of Research and Development has responsibility for the administration and surveillance of research undertaken by its own personnel, by contract with others, by cooperative undertakings with the 50 State highway departments, and by selected participation in the national cooperative highway research program.

The Bureau's Office of Highway Safety is responsible for the conduct of broad programs designed to advance safety on the Nation's streets and highways with the objective of reducing the human and economic losses arising from motor vehicle accidents. These operating programs are directed to the improvement and more intensive application of approved standards and techniques for accident prevention, to the better performance of highway safety functions exercised by State and local authorities concerned with highway design and operation, traffic engineering, enforcement, and educational measures, and to the useful exchange of scientific information in the safety field among those having a responsible concern for highways, vehicles, and drivers. Within the Office of Highway Safety there is also maintained the national register of information on drivers whose licenses have been revoked or suspended for certain highway safety code violations.

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE (ACCIDENT PREVENTION)

The Division of Accident Prevention in the Public Health Service plans, designs, and conducts research studies and investigations in the epidemiologic, medical, personal, behavioral, and environmental aspects of accidents and methods for their prevention; provides consultative, educational, training, informational, and other technical services to assist and stimulate State and local authorities in the development and conduct of prevention and control activities designed to minimize accidental injury and death; administers a grants program in support of research; provides counsel concerning the development and maintenance of effective research in institutions, universities, and other organizations; cooperates with other elements of the Public Health Service, the Department of Health, Education, and Welfare, and with other resources of the Nation; and provides interchange of information for poison control centers throughout the country.

The accident prevention program of the Public Health Service has been developed in recognition of the fact that there is the same public obligation to protect the citizens from accidental death and impairment as there is to protect him from communicable disease or any other health hazard. This program is directed to the human factors in accident causation and the approach to combat this major health problem has been to—

1. Conduct research and investigations to determine the causes and to identify the methods for protection.
2. Develop and evaluate protective programs.
3. Assist and advise in getting protection programs adopted and carried out at National, State, and local levels.

Current major problem areas to which the Division of Accident Prevention is devoting its resources are traffic injuries, home injuries, and poisonings.

U.S. DEPARTMENT OF THE INTERIOR (BUREAU OF MINES)

The Bureau of Mines program responsibilities in the field of accident prevention education are directly related to the mineral industries, both coal and noncoal. Accident prevention instruction and training is given to workmen and supervisors by classroom and on-the-job instructions, demonstrations, films and other visual aids, and instruction in first aid and mine-rescue procedures. New techniques in teaching accident prevention to stimulate "company sponsored" training are instituted to broaden the base of accident-prevention educational training. Safety inspections of mines, tunnels, and plants; investigations of serious accidents and fires; and determinations of mining hazards to be eliminated or minimized are conducted and coordinated with the safety educational program.

U.S. DEPARTMENT OF LABOR (BUREAU OF LABOR STANDARDS)

The Bureau assists in developing and promoting standards of industrial safety and health, and providing technical advice and service in that field to State labor departments, labor unions, and trade associations. It serves as headquarters and secretariat for the Federal Safety Council. It carries out activities under the 1958 amendments to the Longshoremen's and Harbor Workers' Compensation Act, which authorize the Secretary of Labor to develop safety and health regulations for the industries, make investigations for compliance, and where necessary enforce the regulations, as well as provide educational and promotional services to insure safe working places. It provides direct consultative safety service to employers and workers subject to the Federal Longshoremen's and Harbor Workers' Compensation Act. Upon request, it assists in the preparation of State industrial safety codes, trains State safety personnel, and publishes technical safety bulletins and safety training material. The Bureau cooperates with State labor departments in developing and promoting statewide accident-prevention programs of a continuing nature, on a general or selected industry basis as determined by the States.

The budget estimates for 1964 and 1965 related to these programs follows:

	Estimate, 1964	Estimate, 1965
Civil Aeronautics Board	$2,670,000	$3,032,900
Federal Aviation Agency	659,763,000	656,966,000
Interstate Commerce Commission	4,641,923	4,639,082
U.S. Department of Commerce (Bureau of Public Roads)	2,600,000	3,700,000
U.S. Department of Health, Education, and Welfare (Division of Accident Prevention)	4,183,000	3,823,000
U.S. Department of Interior (Bureau of Mines)	1,100,000	1,240,000
U.S. Department of Labor (Bureau of Labor Standards)	1,821,800	1,880,500

1965 BUDGET REDUCTION

Mr. FOGARTY. You asked for $5,402,000, and the Department went along with you. The Bureau of the Budget and the President cut you down to $3,823,000, or a cut of $1,579,000. What was the reason they gave? Did they give any special reason for cutting your request or was it just a meat ax cut of some kind?

Dr. JOLIET. We are, perhaps, one of the newer areas in public health, and it may well be that appreciation of the fact that injuries due to accidents and deaths due to accidents—I just don't know that I can answer that question.

Mr. FOGARTY. Did the President mention this in his health message to Congress, accident prevention?

PUBLIC HEALTH SIGNIFICANCE OF ACCIDENTS

Dr. JOLIET. It was our inference from the message of the President that he was interested in health conservation and economy, and it seemed to us that one of the most effective ways of bringing this about would be to conserve the health of people who would otherwise be receiving accidental injuries and deaths. Accidents are the first cause of death from age 1 to age 35 and the fourth cause of death for all ages. Since accidental disability occurs, characteristically, in the younger groups, we really felt that our program and expansion of that program would be quite in accordance with President Johnson's expressed economy motives.

Mr. FOGARTY. I agree with you 100 percent. I think this is false economy. It just doesn't add up, as far as I am concerned, and I agree with you 100 percent on that.

Dr. TERRY. Mr. Fogarty, the President didn't specifically mention accident prevention in his health message.

Mr. FOGARTY. Other Presidents have, though, and I am surprised it was left out of his message.

Dr. JOLIET. He could have included it under the general concept of consumer protection which involves production or the development of safe products on the market that otherwise would cause injuries or deaths.

Mr. FOGARTY. Dr. Joliet, give me those statistics again.

Dr. JOLIET. On the importance of accidents?

Mr. FOGARTY. Yes.

Dr. JOLIET. The first cause of death from the years 1 to 35 is accidents. The fourth cause of death for all ages is accidents. Accidental deaths, generally speaking, occur in the younger age groups; therefore, the days lost because of premature death because of accidents, are greater than from any other cause. As an economic problem, the assault on health that accidents make is probably the most expensive of all. The days lost because of accidental deaths that occur to young people are far more extensive than days lost because of deaths that occur to older people.

Mr. FOGARTY. Also, the days lost from production and the cost of medical care and hospitalization is going up.

Dr. JOLIET. Certain kinds of accidents, certain kinds of compound fractures and characteristically, burns—require long treatment and many days of hospitalization. The requirements for physicians are great, and many hospital beds are being built simply to house the accidents that are occurring.

Thirty-eight percent of all impairments in the United States are due to accidents.

Mr. FOGARTY. Something can be done. We have been shown that by the Bureau of Labor Standards.

SUCCESS OF PAST PROGRAMS

Dr. JOLIET. We have never worked anywhere in any program with any State or local health department where we have not brought about a substantial reduction in accidental injuries or deaths, or both. There is no question about the public health aspects of accident prevention being a highly successful program. The figures I have mentioned about the increased accident prevention activities in the health departments are startling, in that accident prevention activities are in competition with other things that health departments have to do.

They have small staffs and they have little money. The fact that their activities in accident prevention in this short period of time would leap from the figures I mentioned to current figures without formula or project grant funds which we don't have, is a spectacular increase and a terrific endorsement of what public health people can do in accident prevention. There is no place where we have done anything where we haven't shown more than 20- to 30-percent reduction in accidental injuries. By "we," I mean the people in the State health departments or local health departments.

Mr. FOGARTY. I think that is a real good record, and I am surprised you would be cut back in your attempt to carry on this good work.

Will you supply the record with any additional statistics you may have, such as those we have been discussing, and tell us how the economy would be benefited if the committee restored this cut of $1,579,000.

Dr. JOLIET. I would be very pleased, sir.

(Information furnished follows:)

INJURY CONTROL

The Public Health Service program for injury control will further the objectives of the President's programs for health conservation and consumer protection and will contribute substantially to our national economy. It has been a long-established economic principle that good health is a cornerstone for a growing national economy. An examination of the statistics on deaths and impairments from injury will indicate the effects of this problem on the health, and hence the productive capacity, of the Nation.

Accidental injuries rank fourth among causes of death, being exceeded only by heart disease, cancer, and vascular lesions affecting the central nervous system. However, the average age at death for these three causes ranges from 65 to almost 80 years, while the average age at death from accidental injury is in the neighborhood of 43 years. This means that, in terms of working years—years in which persons can contribute to the national economy—the loss from accidents exceeds that from any of the other three leading causes.

As another illustration of the effect of accidental injury as a cause of death among persons in the economically active ages, more than half the deaths of persons 15 to 24 years of age are due to accidental injury, and more than 40 percent of the deaths of schoolchildren 5 to 14 years of age are due to this cause. These facts are not always clearly recognized, because of the emphasis sometimes put on the high accidental death rates among old people. Nevertheless accidental injury is essentially a health problem of young persons and of persons in the prime of life.

Of the 45 million persons injured annually in the United States, 26½ million or almost 59 percent, must restrict their normal activities for a day or more because of the injury. More than 10 million of these are confined to bed for at least a day and almost 2 million are hospitalized.

Injuries are responsible for almost one-sixth of the total time spent in restricted activity, and about one-tenth of the time persons are confined to bed because of illness or injury. Those persons who are injured severely enough to cause them to restrict their normal activities for a day or more averaged 17.4 days of restricted activity per person. Persons confined to bed because of injury averaged 11.1 days in bed because of their injuries. This means that, on an average day in the United States, 1,250,000 persons must limit their activities because of injury. These persons include 300,000 confined to bed, of whom 50,000 are in hospitals.

According to the Division of Hospital and Medical Facilities of the Public Health Service, there are 649,000 acceptable hospital beds available for general use in the United States. Injured persons occupy 50,000 beds, about 8 percent of the total available acceptable beds. With a current shortage of 133,000 hospital beds, it is evident that a significant reduction in disabling accidental injuries would contribute substantially to the relief of the hospital bed shortage in this country.

There are 133 doctors of medicine in the United States per 100,000 persons. There are 8 doctors of osteopathy per 100,000 persons, making a total of 141 physicians per 100,000 persons. The number of accidental injuries requiring medical attention annually is 21,370 per hundred thousand persons. Thus, on the average, a physician in the United States sees 150 to 160 different injury patients annually. Since many of these patients visit a physician more than once, it is evident that more than 200 patient visits per physician per year are attributable to accidental injury.

Another measure of the effect on the Nation's economy of accidental injury is the amount of absenteeism and loss of working time it causes. In addition to almost 2 million man-years lost permanently because of accidental death of persons in the active ages, there are 83,773,000 days lost from work annually because of injury—an average of 1.25 days lost per currently employed person—almost one-fourth of all the absenteeism due to illness and injury. Among children 6 to 16 years old, 11,894,000 days are lost from school annually because of injury—about 6 percent of all absenteeism due to illness or injury.

It is evident from the foregoing analysis that accidental injury is an important cause of disability and premature death; that it imposes a significant burden on hospitals and medical facilities, and that it reduces the productive capacity of currently employed persons—persons whose skills are now needed. Viewed both as a humanitarian measure to save lives and relieve suffering and as an economic measure to maintain productivity capacity and to prevent the diversion of medical care facilities from needs in the treatment of disease, the reduction or prevention of accidental injury is important.

Costs or losses in the following specific areas result from injuries:

1. Emergency care and transportation to a treatment source.
2. Hospitalization and/or medical care.
3. Compensation.
4. Loss of earnings and productivity.
5. Vocational rehabilitation.
6. Welfare support for family.
7. Social security payments.

8. Court costs for injury claim cases.
9. Police investigations and reports.
10. Loss of tax revenue.
11. Aid to crippled children.
12. Destruction of goods and property.

If the injury results in death, certain losses are total.

1. The investment in education and training.
2. Potential productivity and creative years.

Associated with deaths also, are:

1. Funeral costs.
2. Aid to dependent children.
3. Social security payments.
4. Estate settlements.

The attached tables will provide additional information on the extent and nature of the injury problem in the United States, the characteristics of the groups affected, and the cost of accidents to the Nation.

PROSPECTS OF SUCCESS

The accidental work death rate in industry has been reduced 67 percent over the past 50 years. Death rates in civil aviation accidents were 7.8 per 100 million passenger miles in 1937; in 1962 the rate was 0.35. Public Health Service successes in reducing injuries in special demonstration areas gives every indication that injuries among the general population with their associated disabilities and deaths and costs can be significantly reduced on a national basis.

EFFECT OF RESTORATION OF CUT

Restoration of the 47 positions and $1,579,000 would enable the Division of Accident Prevention to continue and substantially strengthen public health injury control activities directed toward the above goal. It would accelerate the overall attack on traffic injuries by improving simulation equipment for studying drivers; it would strengthen our programs for identifying hazards to the consumer and causes of injury; it would permit an expansion of technical assistance and training to secure a more widespread application of protective programs by State and local health agencies. The readiness of health departments to move into this new area of health conservation is demonstrated by the increase in the number of State health departments having programs for injury control. There were 6 in 1959 and 26 in 1964. Continued growth in State health department activities would be accelerated by additional training, technical assistance, and program advice and consulation. Training of about 40,000 public health operating personnel in public health accident prevention techniques—proven effective—is essential. Restoration of the cut would permit the retention and continued assignment of personnel to some of the States which have requested personnel to assist in establishing programs.

COSTS OF ACCIDENTS

General

Data are not available to show the total impact of accidental deaths and injuries on the Nation. Some gross estimates have been made for costs or losses in certain areas. These are presented below along with losses in a few specific areas.

It has been estimated that accidents cost $15.5 billion in 1962. Of this total, $9.3 billion was attributable to injuries resulting from accidents, broken down as follows:

Wage loss	$4, 400, 000, 000
Medical expense	1, 500, 000, 000
Hospital fees	800, 000, 000
Physicians' fees	400, 000, 000
Medicines and appliances	300, 000, 000
Overhead cost of insurance	3, 400, 000, 000

In addition to these injury costs, property damage in motor vehicle accidents cost an estimated $2.4 billion, property destroyed by fire amounts to $1.3 billion, and property damage and loss of production caused by work accidents cost $2.5 billion.

The total amount of compensation paid under workmen's compensation laws in 1961 was about $1.4 billion. Of this amount about $460 million was for medical and hospital costs, and about $900 million for wage compensation.

Nonfatal injuries result in the loss of about 84 million workdays annually according to the national health survey.

Persons injured by accidents impose a heavy burden on our hospital facilities. The number of emergency room visits is estimated at 20 million and about 2 million persons are hospitalized for treatment of injury each year. Each year accidents result in about 20 million hospital bed-days and require the equivalent of about 50,000 hospital beds and 68,000 full-time personnel.

Armed Forces

Accidental deaths accounted for 71 percent of all deaths of military personnel in 1962. Twenty percent of man-days lost from duty were due to accidental injury.

Private automobiles were the major cause of accidental death.

Injuries were responsible for 14 percent of all admissions to clinics or hospitals for treatment.

Crippled children

In 1950, 11,000 children were served by crippled children's agencies because of accidental injury. In 1960 the number had increased 45 percent to 16,000 or 22.2 per 100,000 child population.

Families dissolved by accidental death

About 29,000 women are widowed by the accidental deaths of their husbands annually. Another 9,000 married women are accidentally killed, making a total of 38,000 families annually dissolved by accidental death.

Mr. FOGARTY. Thank you, gentlemen.

JUSTIFICATION MATERIAL

We shall place the justification material in the record.

(The justification material referred to follows:)

Amounts available for obligation

	1964	1965
Appropriation	$4,163,000	$3,823,000
Comparative transfer from "Salaries and expenses, Office of the Surgeon General"	2,000	
Proposed transfer from "National Heart Institute"	18,000	
Total	4,183,000	3,823,000

Obligations by activities

Description	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Research grants		$2,046,000		$1,663,000		−$383,000
Research, training, and technical services	153	2,137,000	121	2,160,000	−32	+23,000
Traffic injuries	42	968,000	42	1,268,000		+300,000
Home injuries	62	561,000	30	268,000	−32	−293,000
Poison control	28	366,000	28	375,000		+9,000
Training	21	242,000	21	249,000		+7,000
Total obligations	153	4,183,000	121	3,823,000	−32	−360,000

Obligations by objects

	1964 estimate	1965 estimate	Increase (+) or decrease (−)
Total number of permanent positions	153	121	−32
Full-time equivalent of all other positions	23	17	−6
Average number of all employees	167	132	−35
Number of employees at end of year:			
Permanent positions	147	121	−26
Other	48	36	−12
11 Personnel compensation:			
Permanent positions	$1,200,500	$1,034,000	−$166,500
Positions other than permanent	92,000	73,000	−19,000
Other personnel compensation	6,000	3,000	−3,000
Total personnel compensation	1,298,500	1,110,000	−188,500
12 Personnel benefits	126,000	109,400	−16,600
21 Travel and transportation of persons	146,000	132,000	−14,000
22 Transportation of things	15,000	15,000	
23 Rent, communications, and utilities	40,000	32,000	−8,000
24 Printing and reproduction	15,000	15,000	
25 Other services	67,000	67,000	
Services of other agencies	1,000	1,000	
Research contracts	203,000	460,000	+257,000
Payment to—			
"Bureau of State Services management fund"	118,500	119,600	+1,100
"National Institutes of Health management fund"	27,000	27,000	
26 Supplies and materials	40,000	35,000	−5,000
31 Equipment	40,000	37,000	−3,000
41 Grants, subsidies, and contributions	2,046,000	1,663,000	−383,000
Total, obligations by object	4,183,000	3,823,000	−360,000

Summary of changes

1964 enacted appropriation	$4,163,000
Comparative transfer from other accounts	2,000
Proposed transfer from National Heart Institute	18,000
Total estimated obligations, 1964	4,183,000
1965 estimated obligations	3,823,000
Total change	−360,000
Increases:	
A. Built in:	
1. Annualization of step 2 of civil service pay increase	32,000
2. Annualization of uniformed services pay increase	7,000
3. Annualization of 4 positions new in 1964	6,000
Subtotal, built-in increases	45,000
B. Program increases: 1. Expansion of traffic injuries program for further research and development of a driving simulator	283,000
Subtotal, program increases	283,000
Gross increases	328,000
Decreases:	
1. Nonrecurring equipment	−3,000
2. 1 less day's pay in 1965 (262 days in 1964; 261 days in 1965)	−3,000
3. Reduction in research grants	−383,000
4. Reduction in home injuries program	−299,000
Subtotal, decreases	−688,000
Total net change requested	−360,000

EXPLANATION OF CHANGES

Traffic injuries

An increase of $283,000 is requested to undertake the next phase in the development of a driving simulator.

Research grants

The allowance of $1,663,000 for research grants, a reduction of $383,000 under 1964 will support continuations of previously approved grants and permit the award of nine new grants.

Home injuries

A decrease of $299,000 and 32 positions results from a reduction in all of the program areas including those dealing with injuries resulting from sliding glass doors, lawnmowers, guns, and recreational activities.

Explanation of transfers

	1964 estimate	1965 estimate	Purpose
Transfer from—"National Heart Institute."	$18,000	0	Proposed transfer due to Uniformed Services Pay Act of 1963.
Comparative transfer from—"Salaries and expenses, Office of the Surgeon General."	2,000	0	Decentralization of accounting point costs.

	Budget estimate to Congress	House allowance	Senate allowance	Appropriation
1962	$3,368,000	$3.368,000	$3,618,000	$3,618,000
1963	3,668,000	3,668,000	3.668,000	3,668,000
1964	4,857,000	4,163,000	4,163,000	4,163,000
1965	3,823,000			

Research grants

1964 estimate	$2,046,000
1963 estimate	1,663,000
Increase or decrease	—383,000

Estimated grant requirements

	1964 estimate		1965 estimate		Increase or decrease	
	Number	Amount	Number	Amount	Number	Amount
1. Continuations:						
A. Noncompeting	21	$1,004,000	21	$1,008,000		+$4,000
B. Competing	5	149,000	5	149,000		
2. Supplemental	(6)	53,000	(6)	53,000		
3. New grants	19	765,000	9	377,000	−10	−388,000
Subtotal	45	1,971,000	35	1,587,000	−10	−384,000
4. Increase in indirect costs:						
A. To 20 percent [1]		75,000		57,000		−18,000
B. To 25 percent [2]				19,000		+19,000
Total indirect costs		75,000		76,000		+1,000
5. Total	45	2,046,000	35	1,663,000	−10	−383,000

[1] Relates to all grants to be supported in 1964 and 1965.

[2] Relates to proposed increase in indirect cost to 25 percent for grants approved on or after Jan. 1, 1965.

By providing support for independent but relevant research, the research grants program makes possible the tapping of scientific manpower resources to enhance the mission of the Division of Accident Prevention. Competent researchers are encouraged to use their talents to contribute new knowledge and understanding of accident phenomena, and to develop preventive measures.

In comparison with many other areas of health maintenance and health protection, accident prevention research has not yet developed to its full potential nor has any such discipline been especially identified with it. While the small, individual type of project has its place and makes its contribution, an important objective of the research grants activities of this Division is to promote the growth of multidisciplinary research teams which are equipped to undertake comprehensive studies of some of the extremely complex accident research problems which individual investigators are not equipped to undertake. The overall average cost of a research grant project in accident prevention has been approximately $45,000, large-scale program projects may cost two to five times this amount. In the 10 years prior to the establishment of this Division with a Research Grants Section, 44 grants had been made. In the 2 years of its activity in this field, 39 new grants have been made. Some published findings from research grant projects which have contributed information in important areas are—

(*a*) Seat belt development, use, and effectiveness.
(*b*) The role of alcohol in traffic accident fatalities.
(*c*) Driver education.
(*d*) The nature and incidence of various types of farm accidents.
(*e*) The epidemiology of childhood accidents.
(*f*) The incidence of accidental poisonings for various age groups.
(*g*) Engineering data related to development of safer door locks, steering wheels, safer glass and energy-absorbing materials (padded dashes, etc.) for automobile interiors.
(*h*) Preventive devices for participants in various sports.

The 1965 estimate of $1,663,000 will support continuations of previously approved grants and will permit the award of nine new grants.

Research, training, and technical services

	1964 estimate		1965 estimate		Increase or decrease	
	Positions	Net cost	Positions	Net cost	Positions	Net cost
Personnel compensation and benefits	153	$1,424,500	121	$1,219,400	−32	−$205,100
Other expenses	------	712,500	------	940,600	------	+228,100
Total	153	2,137,000	121	2,160,000	−32	+23,000

Summary of program

	1964 estimate		1965 estimate		Increase or decrease	
	Positions	Net cost	Positions	Net cost	Positions	Net cost
Traffic injuries	42	$968,000	42	$1,268,000	------	+$300,000
Home injuries	62	561,000	30	268,000	−32	−293,000
Poison control	28	366,000	28	375,000	------	+9,000
Training	21	242,000	21	249,000	------	+7,000
Total	153	2,137,000	121	2,160,000	−32	+23,000

Traffic injuries

1964 estimate	$968,000
1965 estimate	1,268,000
Increase or decrease	+300,000

Nearly 3 million persons are injured in moving motor vehicle accidents each year and approximately 39,000 are killed. Any program for reducing total injuries and deaths must include injuries from motor vehicles.

The three major components of the Public Health Service program for reducing traffic injuries are: the development and use of passenger protective devices such as seat belts, improvement in the emergency handling and transportation of the injured, and research to develop medical standards as a guide in connection with motor vehicle licensing.

Significant progress has already been made in promoting the installation of seat belts. Twenty-two States and the District of Columbia now have laws requiring the installation of seat belts. The three major automobile producers in the United States will have seat belts as standard equipment on all 1964 models. The seat belt program will be continued at the same financial level in 1965, but emphasis will be directed toward encouraging increased wearing of the seat belt now that they are being installed.

Emergency medical services

The American College of Surgeons, the American Association for the Surgery of Trauma, the National Safety Council, and the Public Health Service concur on the basis of studies and observations, that the quality of emergency care varies startingly from one area to another. In many areas, ambulance attendants have no training in first aid at all—vehicles are inadequate or poorly equipped, and there is no method of dispatching them efficiently.

Joining with the above organizations, our first objective is to improve the selection and training of ambulance attendants. The situation differs widely, as does professional opinion about what constitutes adequate emergency care training.

Our plan is to bring together health officers, medical societies, hospital administrators, and others to study their own geographic areas, evaluate the services rendered, and (when necessary) develop a plan to improve the services.

In 1964 a comprehensive Emergency Medical Services study in California will be completed. Limited pilot studies will also be conducted in several different types of communities to determine variations in the types of cases handled, the equipment used, qualifications of the personnel, the methods of dispatching and managing emergency vehicles and other aspects of Emergency Medical Services.

While we believe that minimizing the consequences of traffic accidents through the use of protective devices and improved emergency medical services is extremely important, we also recognize that the primary objective remains that of preventing the occurrence itself. This preventive effort must be focused on the identification and management of conditions affecting the driver's safe operation of a vehicle.

The Public Health Service has developed a broad-scale, medically oriented research program to develop the fundamental information and preventive measures required by licensing authorities, police officials, courts, educators, and others dealing with problems related to the driver. The ultimate objective of this research program is to define human characteristics, capabilities, and behavior which are essential requirements for the prevention of traffic injuries and deaths. Such human factors as physical and mental condition, alertness, fatigue, knowledge, skill, and the effects of alcohol, drugs, and stimulants, will be studied in relation to requirements for the safe operation of a vehicle. The studies are designed to provide a factual, scientific basis for official decisions and guidance on driver licensing, and enforcement and educational approaches to driver improvement, training, and education.

A prerequisite to determine whether a person can drive safely is a detailed comprehensive knowledge of the task of driving. In 1964, work will continue on identifying the driver's task—that is, what he must be able to do under normal and emergency situations.

Many studies of drivers can be carried out with existing facilities and in actual driving situations. This will be done. However, some of the most crtical studies are not possible in actual highway driving because of the hazards involved and the inability to reproduce identical situations and to systematically observe and record performance.

These types of studies must be done in a laboratory setting with suitable equipment. Now needed is driving simulation equipment which will permit driving situations to be observed and analyzed in a laboratory setting.

In June of 1963 two contracts were awarded for developmental work on driver simulation. The contract with Goodyear Aircraft Corp. provides for the design and construction of a test model of a driving simulator. Antoher contract with the Radio Corp. of America provides for construction and testing of a device for simulating situations such as rear end collisions on parkways, which is a major accident category, and other limited driving situations. In 1964, $157,000 will be spent on this program for intramural and extramural research relating to rear end collisions, completion of a systems analysis for the development and operation of the simulation program, and development of an analysis for selection ordering of simulation studies. The work program for 1965 to which an increase of $283,000 is directed, will include the following:

A. *Improve fidelity of simulation systems.*—The proposed work will involve applying refined techniques of recording vehicle and human responses; developing more realistic input to the operator resulting from car motion (vibration, tilting, etc.); increasing visual resolution of detail; refining the sound system; and reducing the faulty perception of motion in the visual field.

B. *Develop and evaluate alternate methods of producing simulated extended and local driving behavior.*—This work will include development of techniques for joining TV and belt system simulation methods, evaluating the resultant system, and carrying out evaluations of the characteristic elements of the individual systems. This will involve research and validation testing on the real road and on test tracks.

Developmental work on the simulator will be done by contract under the supervision and direction of a small technical staff. The total available for this program is $440,000 with $220,000 in each project area.

An increase of $17,000 is requested for built-in costs in 1965.

Home injuries

1964 estimate	$561,000
1965 estimate	268,000
Increase or decrease	—293,000

Burns, falls, suffocations, amputations, lacerations, concussions, gunshot wounds, and drownings place the home premises high on the list of places where injuries and deaths occur.

Approximately 28,000 deaths occur each year because of accidents in and around the home. The toll of these deaths on our young and senior citizens is illustrated by the fact that of all accidental deaths of children under 5 years of age, two-thirds happened in the home environment, while one-half of the accidental deaths of senior citizens aged 65 years and over were triggered by accidents within, or near the home.

According to the National Health Survey, 20 million persons are injured in home accidents annually. These injuries all involve 1 or more days of restricted activity or medical attention; 16.7 million persons receive medical attention; 4.2 million are confined to bed because of the injury for 1 day or longer; 700,000 persons are hospitalized. The loss from these injuries includes 162.9 million days of restricted activity, of which 40.9 million were days of bed-disability. There were 17.1 million days lost from work, and 5 million days lost, by children 6 to 16 years old, from school.

This activity is concerned with the development and application of knowledge to reduce or prevent the above injuries.

One of the major types of injury that can be reduced by intensive educational means is burns. Burns and suffocation from fires are a major cause of deaths, serious injury, and disfigurement. The Public Health Service has demonstrated in Mississippi County, Ark., that the number of burn injuries can be significantly reduced. In cooperation with health departments, other demonstrations to reduce burn injuries are being carried out in North Carolina, Rhode Island, and Mississippi. A major breakthrough in burn injury prevention may come with the use of fire-resistant fabrics. A process for making cotton fiber and synthetic fabrics flame resistant has been developed and is being examined by the Public Health Service as a possible preventive measure. This will hopefully provide us with a tool which we can promote through educational methods. In view of the many injuries from burning clothing, draperies, bed clothing, etc., this preventive measure offers great potential in hospitals, institutions, homes for the elderly and public accommodations and its use will be encouraged in 1964 and 1965.

Fractures and concussions from falls are a serious and frequent cause of injury around the home. Falls cause 12 million injuries and 19,000 deaths. To prevent these, the mechanism of walking, the chemistry of bones, including the strength of bones, environmental hazards including slippery surfaces, unequal stair steps, etc., are all being subjected to epidemiologic investigation. As clues resulting from such research are uncovered, countermeasures, human or environmental as the case may be, will be developed and disseminated to the public, to reduce or eliminate injuries and deaths resulting from falls.

Accidental injuries among the aged are of such a magnitude that the Public Health Service is carrying out a special study of accidents among old people. A study in St. Petersburg, Fla., is designed to examine the accident experience of large numbers of elderly people in a community setting to determine the causes and what can be done to reduce the accident risks to these persons. A study at Ford Hospital in Detroit is directed toward determining whether osteoporosis is a significant factor in hip fractures among elderly people.

A decrease of $293,000 and 32 positions in 1965 results from an increase of $6,000 for built-in costs and a decrease of $299,000 and 32 positions. In 1965, this program for protecting the family will be, to a great extent, directed toward preventing burns and falls, which account for a great number of deaths and injuries in and around the home. However, reductions will be made in all of the program areas including those dealing with injuries resulting from sliding glass doors, lawn mowers, guns, and recreational activities.

Poison control

1964 estimate	$366, 000
1965 estimate	375, 000
Increase or decrease	+9, 000

Each year approximately 500,000 cases of potential poisoning in children are brought to the Nation's physicians. Each case is an emergency, and the product involved in an accidental ingestion must be considered dangerous until the physician determines the active ingredients ingested. There is an ever-increasing variety of household products and medicines on the market, and it is impossible for each physician to have knowledge of the ingredients and formulations of each one. For this information he relies on the nearest of 516 poison control centers in the country. The need for these poison control centers can perhaps best be shown by their growth. There were 17 in 1955: 259 in 1958: 470 in 1963; and 516 in 1964. These centers, usually located in hospital emergency rooms, are continually supplied with up-to-date information by the National Clearinghouse of Poison Control Centers which is operated by the Division of Accident Prevention. This information includes the active ingredients, toxicity, symptoms, and the recommended treatment for many of the household products and medicines.

There has been a renewed interest in the use of activated charcoal as an emergency measure in treating poisonings. Therefore, in 1964 the Public Health Service contracted with the University of Arizona, College of Pharmacy, to determine its effectiveness in the treatment of certain types of poisonings. This study will define the value of activated charcoal as an antidote.

The use of adreno-cortico steroids in the treatment of chemical pneumonitis, the major complication of kerosene ingestion, will also be investigated. This project will be conducted with the cooperation of the American Association of Poison Control Centers.

The growth of these centers also points to the increasing awareness of the poison problem and reemphasizes the need for preventive programs. Knowledge gained from the Charleston, S.C., and Providence, R.I., demonstration projects has suggested methods to broaden our preventive endeavors. Further demonstrations in 1965 will be needed prior to a nationwide effort.

An increase of $9,000 is requested for built-in costs in 1965.

Training

1964 estimate	$242, 000
1965 estimate	249, 000
Increase or decrease	+7, 000

The availability of trained personnel in State and local health departments is essential for the successful conduct of injury prevention programs. As ways of reducing injuries are developed they must be applied. Application of this knowledge is primarily a responsibility of the State or local jurisdiction. Thus, there must be trained personnel at these levels of government to insure the orderly flow of health benefits to the general public.

Many State health departments not having trained personnel available for assignment to this new program area have asked for the assignment of personnel by the Public Health Service. Eighteen men trained under this program were so assigned in 1963 and have assumed major responsibilities for programs in the States to which they are assigned. These men will be reassigned in 1965 as program developments in these States permit.

In addition to the assignment of personnel, the Public Health Service conducts training for State and local health department administrative, sanitarian, nursing, and health education personnel. In 1963, 20 one-day training courses were conducted with an attendance of 1,430 persons. With the increase provided in 1964 the number and attendance will be more than doubled. In 1964 eight short-term training courses of 1 to 3 weeks duration will be conducted in cooperation with qualified colleges and universities.

An increase of $7,000 is requested for built-in costs in 1965.

Wednesday, February 19, 1964.

CHRONIC DISEASES AND HEALTH OF THE AGED

WITNESSES

DR. EUGENE H. GUTHRIE, CHIEF, DIVISION OF CHRONIC DISEASES

DR. AARON W. CHRISTENSEN, DEPUTY CHIEF, BUREAU OF STATE SERVICES

JOHN W. HAMBLETON, FINANCIAL MANAGEMENT OFFICER FOR COMMUNITY HEALTH PROGRAMS

DR. LUTHER L. TERRY, SURGEON GENERAL

HARRY L. DORAN, CHIEF FINANCE OFFICER

JAMES F. KELLY, DEPARTMENT BUDGET OFFICER

Object classification

[In thousands of dollars]

		1963 actual	1964 estimate	1965 estimate
11	Personnel compensation:			
	Permanent positions	4,837	6,170	6,559
	Positions other than permanent	308	335	337
	Other personnel compensation	10	39	24
	Total personnel compensation	5,155	6,544	6,920
12	Personnel benefits	812	928	960
21	Travel and transportation of persons	863	1,020	1,084
22	Transportation of things	116	108	115
23	Rent, communications, and utilities	185	187	198
24	Printing and reproduction	129	47	48
25	Other services	2,096	1,357	1,366
	Services of other agencies		56	56
	Research contracts	1,862	2,040	2,040
	Payment to—			
	Bureau of State Services management fund	330	625	659
	National Institutes of Health management fund	25	30	30
26	Supplies and materials	356	200	209
31	Equipment	566	271	260
41	Grants, subsidies, and contributions	34,498	40,260	39,824
	Total obligations	46,993	53,673	53,769

Personnel summary

	1963 actual	1964 estimate	1965 estimate
Total number of permanent positions	840	874	903
Full-time equivalent of other positions	49	54	54
Average number of all employees	699	829	855
Employees in permanent positions, end of year	727	837	865
Employees in other positions, end of year	115	92	92
Average GS grade	8.3	8.2	8.3
Average GS salary	$7,335	$7,637	$7,665

Program and financing

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
Program by activities:			
1. Grants:			
(*a*) Research	1,174	2,020	1,811
(*b*) Formula grants to States:			
(1) Cancer	3,385	3,500	3,500
(2) Heart	6,133	7,000	7,000
(3) Other chronically ill and aged	11,383	13,000	11,750
(*c*) Project:			
(1) Cancer	4,538	4,850	5,273
(2) Neurological and sensory	2,338	2,950	3,450
(3) Other chronically ill and aged	5,598	7,000	7,000
(*d*) Training			100
2. Research, training, and technical services	11,863	11,953	13,885
Total program costs, funded [1]	46,412	52,273	53,769
Change in selected resources [2]	581	1,400	
Total obligations	46,993	53,673	53,769
Financing:			
Comparative transfers from other accounts	−26,201	−49	
Unobligated balance lapsing	2,144		
New obligational authority	22,936	53,624	53,769
New obligational authority:			
Appropriation	22,942	53,377	53,769
Transferred to—			
"Operating expenses, Public Buildings Service," General Services Administration (76 Stat. 728)	−6		
"Salaries and expenses, Office of the Surgeon General" (42 U.S.C. 226)		−5	
Appropriation (adjusted)	22,936	53,372	53,769
Proposed transfer from "National Heart Institute" due to Uniformed Services Pay Act of 1963		252	

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[1] Includes capital outlay as follows: 1963, $78,000; 1964, $271,000; 1965, $271,000.

[2] Selected resources as of June 30 are as follows: Unpaid undelivered orders, 1962, $2,901,000 (1963 adjustment, −$1,526,000); 1963, $1,956,000; 1964, $3,356,000; 1965, $3,356,000.

Mr. FOGARTY. We have before us now chronic diseases and health of the aged.

Do you have a statement you wish to make, Dr. Guthrie?

Dr. GUTHRIE. Yes, sir.

GENERAL STATEMENT

Dr. GUTHRIE. I speak on the appropriation "Chronic Diseases and Health of the Aged." Mr. Chairman, to conserve time, I will confine my oral statement to five of the most immediate and promising new opportunities which we have in the Division of Chronic Diseases for progress in combating long-term illiness and disability.

REPORT ON SMOKING AND HEALTH

First, I am sure you are aware of the tremendous impetus given to all of our preventive activities in heart disease and cancer by the report of the Surgeon General's Advisory Committee on Smoking and Health. We are particularly concerned by that part of the report dealing with chronic respiratory diseases. Deaths from two of these, emphysema and chronic bronchitis, have increased more than 600 percent since World War II. The smoking and health report strongly implicates cigarettes as a major contributor to this upward spiral, and lends a strong sense of urgency to the need for developing effective control measures.

HEART DISEASE

In heart disease, we are demonstrating the value of electronically equipped, intensive care units in hospitals. Patients having acute heart attacks are rushed immediately into specially manned units equipped with the latest devices for monitoring vital body functions and with auxiliary pumps to relieve the burden on damaged hearts. This newly developed procedure offers hope for substantially reducing the high rate of mortality and disability from the Nation's No. 1 killer.

CANCER RESEARCH

In cancer research, it is now established that soft-tissue X-ray can help physicians diagnose breast cancer in women when it is most susceptible to cure and often before the lesion can be felt. This is most significant when we consider that breast cancer kills more women today than cancer in any other site. The new procedure, known as mammography, is complex. On the basis of studies among 24 institutions, it is apparent that radiologists trained in this technique will be able to diagnose more than 80 percent of breast cancers referred to them. We are now training radiologists in this procedure and will train more.

MENTAL RETARDATION

In mental retardation, we are encouraged by the opportunity afforded by Congress in providing a system of planning grants for

States. Here, for the first time, all State and community resources can be marshaled against a serious problem too long neglected. The planning grants program effectively complements ongoing activities concentrating on early detection and prevention. We are hopeful that it will lead to continuing support which will enable States to deal practically and effectively with a problem afflicting 5 million in the population.

KIDNEY DISEASE

In kidney disease, an estimated 10,000 Americans were doomed to die each year from chronic renal failure. Today, with the perfection of an artificial kidney technique, a 5- to 20-year lifespan is possible for many such patients. In Seattle, we are conducting a pilot demonstration of a community-operated artificial kidney center which is contributing invaluable knowledge to this new breakthrough.

The budget before you—in addition to ongoing support for heart disease and cancer control—includes increases and 23 new positions which will enable us to mount more effective programs for health care of the aged, for improving standards in nursing homes, for preventive and control activities in arthritis and the entire family of neurological and sensory diseases, including blindness, deafness, and mental retardation.

For meeting these varied responsibilities we are requesting a total of 903 positions and $53,769,000.

I shall be glad to answer any questions you may have about this program or the budget request.

Mr. Fogarty. Thank you, Doctor.

BUDGET FOR 1965

You have available for 1964 $55,950,000, and the request for 1965 is $53,769,000 or a reduction of $2,181,000 which is almost exactly equal to the one-time appropriation of $2,200,000 for 1964 for State planning in connection with the mental retardation program. So, in total dollars, your budget is almost exactly the same for 1965 as for 1964. Isn't that right?

Dr. Guthrie. Yes, sir.

CHANGE IN RATIO OF FORMULA GRANTS TO STATES

Mr. Fogarty. You are cutting down on the general formula grants and increasing the project grants in specific disease areas; is that right?

Dr. Guthrie. That is right.

Mr. Fogarty. Some of the State health officers are not too happy about this; are they? We have had some complaints about it.

Dr. Guthrie. That is correct.

Mr. Fogarty. What are you going to do about it? What is your answer to them?

Dr. Guthrie. My answer is that under the present plan to go from a two-to-one match to a one and one-half-to-one match, we will be able to maintain the same programs we have operating now, which will mean a greater participation on the part of the States than there has been in the past. It will maintain the present level if the States are able to provide their additional matching requirements.

Mr. Fogarty. Has this happened in any other budget in the Public Health Service?

Dr. Terry. Only in the community health areas. That is the only area.

Mr. Kelly. I think you should understand that when the law was enacted, it authorized the Surgeon General to establish a matching formula, and he established a matching formula, initially, on the basis of two Federal dollars for one State and local dollar but provided that in fiscal year 1966, it would go to a ratio of one Federal dollar to one State and local dollar. All that has occurred to change that is that the fiscal year 1965 has been placed on a transitional basis of one and a half Federal dollars to one State and local dollar in order to move from the two to one to one to one. The budget reflects this change.

Mr. Fogarty. Well, that would be the explanation to these health officers, then. I didn't know that. So, in 1966, you would be on a one to one basis.

Dr. Terry. This was the projection.

Mr. Fogarty. They should know that, shouldn't they?

Dr. Guthrie. That is right, yes.

RESEARCH TRAINING GRANTS

Mr. Fogarty. You have $100,000 budgeted to initiate a research training grant program. This infers you are spending no funds on this in 1964. Is that true?

Dr. Guthrie. That is correct; yes sir.

RESEARCH GRANT PROJECTS

Mr. Fogarty. The table on page 54 indicates you plan to support no more research grant projects in 1965 than 1964 and are budgeting $209,000 less in total funds. Are you phasing this program out? Is that what you are doing?

Dr. Guthrie. No, sir; I hope we do not get out of the business of grants.

Mr. Fogarty. That is how it looks in your justification.

Dr. Guthrie. We anticipate we will be able to fund the same number of grants in this program in 1965.

Mr. Fogarty. But your new grants are just about cut in half for 1965, is that right?

Mr. Hambleton. New grants are reduced from 16 to 11.

Mr. Fogarty. Well, that looks like a phasing out deal to me, just by taking a look at that table in the justifications.

MENTAL RETARDATION PLANNING PROGRAM

Have you gotten started with the mental retardation planning program for which you have received a supplemental appropriation recently?

Dr. GUTHRIE. Yes, sir, we have. As of this week, we have received notice of designation of 39 agencies within the States which will operate the planning program for the year.

Mr. FOGARTY. In Rhode Island, the department of health is the agency, isn't it?

Dr. GUTHRIE. Yes, sir.

Mr. FOGARTY. Have they received the money yet?

Dr. GUTHRIE. I don't believe so. Their first requirement is to designate their agency, and then submit a plan. These plans are not due until April 15.

Mr. FOGARTY. Have you had any plans submitted yet from any States?

Dr. GUTHRIE. No plans are submitted yet. Our first action of the program was to indicate to the States what the terms and conditions of this grant program would be and then to take a team from our regional offices into the States and bring together the various State agencies which will be cooperating in the planning. They now are bringing the State agencies together and setting up a mechanism to develop the plans which they will submit for this grant.

These funds just became available, so they have just gotten underway on this.

Mr. FOGARTY. Did anybody in your shop talk to Dr. Novack from Rhode Island this week? I missed him when he was down here. He is a member of the faculty of Rhode Island College.

Dr. GUTHRIE. They may have. With respect to the fact that the program is new, there have been a number of people in, and we have been trying to meet with as many members of these agencies as we can.

CERVICAL CANCER CONTROL PROGRAM

Mr. FOGARTY. Tell us about your cervical cancer control program. How is it doing?

Dr. GUTHRIE. This program is doing very well. In fact, this is the first major cancer in women in which we now have a diminishing death rate directly related to the application of control measures. The death rate in cervical cancer in 1950 was 19.3 per hundred thousand. Now, in 1960, this has gone down to 13.7 per hundred thousand. This has been a very significant development in the program.

RHODE ISLAND PROJECT

Mr. FOGARTY. Do you have any followup programs as to what is going on in States and communities where this program of Federal help has been completed? I am thinking about the State of Rhode Island now.

Dr. Guthrie. Part of the plan of project grants in the cervical cancer detection program is to develop a followup system, whereby an organized effort is made in the community to educate the physicians as well as the women of the community in this whole program area, and to initiate measurement devices for the ensuing years to see how well the female population maintains this type of surveillance technique.

Mr. Fogarty. I guess it ended in Rhode Island 3 or 4 years ago. Do you know?

Dr. Guthrie. I am not sure of the closing date of their project, however, the followup——

Mr. Fogarty. Can you check on what has happened in Rhode Island since and put it in the record?

Dr. Guthrie. I would be glad to.

(Information furnished follows:)

The Rhode Island project ended early in 1960, after performing cytological examinations for about 50,000 patients in its 3 years.

Since then, the use of cytology in Rhode Island has continued to show favorable growth. We keep track of it by cooperating with the College of American Pathologists in periodic surveys, the latest of which was made last summer. Cervical cytology examinations for Rhode Island have been reported as follows:

Year:	*Examinations*
1960	21,128
1961	23,731
1962	33,369
1963 (estimated)	38,000

Dr. Guthrie. Most of these programs have been very excellent in terms of maintaining a good level.

Mr. Fogarty. I think the 3-year program in Rhode Island was very well handled and had the complete cooperation of the medical society and the local cancer society. I think it worked out very well.

Dr. Guthrie. Once the physicians do this in their normal practice they keep it going, and it is a very productive program.

MAMMOGRAPHY

Mr. Fogarty. Now, tell us something about your field studies in the application of mammography?

Dr. Guthrie. This is a new technique, as I said last year. We completed this year a 24-institution collaborative study to see whether or not there truly was the promise that the initial effort indicated. This collaborative program has demonstrated that the mammography technique—once the radiologist is trained in it—does produce excellent results. Now our plan is to present this program to the radiologist in training centers.

Mr. Fogarty. How does it work? You told us last year, but I would like my memory refreshed on that.

Dr. Guthrie. What they do is to take X-rays with modified X-ray equipment of the breast from different angles at different densities, and then, with a very careful reading technique, the radiologist compares these films and looks for variations in densities throughout the continuity of the breast tissue. With this specialized reading experience including the use of a magnifying glass in identifying tumorous from nontumorous tissues, he is able to spot an area of suspicion which they are often unable to palpate. Once they find a suspicious lesion of this sort, the next step is biopsy. Among radiologists well trained in this technique, the percentage of positive biopsies following a positive X-ray diagnosis of cancer is approaching 90 percent.

Mr. FOGARTY. Compared to what in the old way of diagnosing?

Dr. GUTHRIE. Previous to this you had to have an index of suspicion by just palpating the suspected lesion. There was no alternative to sending a woman home when this index of suspicion was not high.

The hope here is that by using both palpation and mammography you can pretty well determine whether the patient does or does not have a malignant lesion, before any surgery has to be done. This is a selective procedure. Right now, we don't see it as a routine, screening-type procedure, because it is time consuming and it does take a very experienced radiologist. In those women who have a particular high risk of breast cancer, this looks like an exceedingly great advance in being able to diagnose these early enough so that they can be removed and there is an excellent prognosis.

Mr. FOGARTY. What do you mean by "high risk"?

Dr. GUTHRIE. For instance, a woman who has had cancer in one breast, the expectation of her having cancer in the other breast is greater than in the normal population.

Mr. FOGARTY. Nothing genetic?

Dr. GUTHRIE. No; not so much genetic, but I think now physicians are better able to predict those women who are more apt to be a risk from this type of cancer than other women, depending on their personal history.

Mr. FOGARTY. What are they?

Dr. GUTHRIE. In a woman, for instance, who has a history of advanced cystic disease, a noncancerous condition which may become cancerous, it is very difficult to determine by palpation whether there is a cyst or whether there is a tumor. This X-ray technique will differentiate between cystic disease and cancer.

Mr. FOGARTY. In other words, those that are in that category ought to be examined in this way?

Dr. GUTHRIE. Yes. Usually. This is what we want to do now in the education of physicians in general. Where they have patients like this whom they are following, by using the mammography technique, they may find lesions missed now, because palpation just isn't a completely satisfactory technique.

Mr. FOGARTY. What about the case of a woman who had a biopsy and it was not malignant? Should that person have this sort of an examination later on?

Dr. GUTHRIE. Well, of course, you have to individualize this to the patient. I think that if a physician is suspicious, one way of following the lesion is by mammography. They can see very small developments of growth and expansion which cannot be felt; so, this represents an advance.

Mr. FOGARTY. With this technique it is possible to get to places where it wasn't possible before with X-ray?

Dr. GUTHRIE. It certainly does offer an opportunity to screen areas of the breast that can't be palpated. They do have to use modified X-ray equipment, but the advances in this equipment are occurring rapidly and every radiologist has to up date his equipment fairly regularly anyway.

TRAINING RADIOLOGISTS

Mr. FOGARTY. What is the future of this now? What are you going to do next year?

Dr. GUTHRIE. We think our next step is to bring this to the attention of radiologists so they may be trained in this technique and offer it to the practicing physicians in the community in more and more communities.

Mr. FOGARTY. How are you going to do it?

Dr. GUTHRIE. By taking training programs to the radiologists through their normal training institutions in their communities where they usually go to receive specialized training.

Mr. FOGARTY. In a State like Rhode Island, what would you do?

Dr. GUTHRIE. In their medical institutions, we would like to see this added on to the training program in radiology. This would mean making available to them training films and teaching guides. We now have sets of training films that have been produced that will be made available to the teaching institutions. Radiologists who have already been trained in this, train other radiologists who would sponsor the local training program. We try to get the general practicing physician familiar with this technique so that as soon as the local radiologist is trained to do it, the physician can refer patients to this service.

ARTIFICIAL KIDNEY CENTER

Mr. FOGARTY. Now, tell us a little bit more than you said in your prepared paper about what you are doing out in Seattle at the artificial kidney center.

Dr. GUTHRIE. The hemodialysis technique for the treatment of kidney disorders was developed to the practical stage at the University of Washington in Seattle, and through the sponsorship of a foundation they were able to develop a preliminary research program in the community setting to see whether or not this really had practical opportunity. They substantially demonstrated this in Seattle, and wanted to establish a community program available to the chronic kidney disease sufferers in the general Seattle area. It was at this point that they submitted a project to the Division for support for a 3-year demonstration program in Seattle which we are now supporting.

This is an expansion to a 10-bed, 30-patient center using the very successful technique developed there by Dr. Scribner. We think this offers an opportunity to find out how well a community, the size of Seattle, can support such an undertaking.

Mr. FOGARTY. You said in your statement that you could increase the life span by 5 to 20 years.

Dr. GUTHRIE. This is what they expect.

Mr. FOGARTY. What is the reason for the range from 5 to 20?

Dr. GUTHRIE. This depends on the extent of the disease in the person when he first comes into this program. If he has had a very severe, chronic-type disease in which there are many associated disabilities, his chances of having a remaining 20-year lifespan are not as good as a young man who has had a less severe type of kidney disease.

Mr. Fogarty. How much does it cost a person to take advantage of this program a year?

Dr. Guthrie. We presently estimate about $10,000 per patient per year. The project in Seattle has estimated, on the basis of the 30-bed center, that the cost can be reduced to $7,000 or $7,500 a year with improvement of their equipment, techniques, and personnel utilization.

NATIONAL KIDNEY DISEASE FOUNDATION

Mr. Fogarty. This is a National Kidney Disease Foundation project.

Dr. Guthrie. Yes, sir.

Mr. Fogarty. I am not too well acquainted with this. What are they doing?

Dr. Guthrie. The National Kidney Disease Foundation has or represents the interest in chronic and acute kidney disease, and they have sponsored this technique developed by Dr. Scribner. They sponsored a conference last summer in New York bringing together members of the foundation and many interested kidney disease specialists from around the country. It was cosponsored by the American Medical Association. They were to discuss the problem of chronic kidney disease and the some 10,000 patients who die per year and see if they couldn't come up with some guidelines on how to extend this procedure to more people in more places in the country.

Out of that meeting a special committee developed several recommended plans of action, and I think the Kidney Disease Foundation is now trying to get those plans implemented.

Mr. Fogarty. In this letter I have from them last December, they say:

> The medical workshop of the conference formulated a resolution calling for the advancement of a limited number of research area and treatment centers.
>
> In the summer of 1962, the Public Health Service prepared a program proposal which would implement this resolution, hoping that Congress would pass the program proposal.
>
> The foundation refrained from attempting to raise vast funds by a widespread public attention aimed at securing public funds for the establishment of the center.
>
> However, the time has now come to reverse the foundation's position and to issue a call for action.
>
> Historically, great medical discoveries have become available to all who might benefit from them shortly after they have proven practicable. It appears that the new techniques in the treatment of chronic kidney failure are the first such discoveries which might be withheld from general use.

Of course, they are not as well known as the American Heart Association and the American Cancer Society and the National Association for Retarded Children and organizations like that.

Dr. Guthrie. Yes, but this is a relatively new organization.

Mr. Fogarty. That is why I am asking about them.

Dr. Guthrie. I don't know the lay members. I know their medical advisory board. In fact, they met with us to discuss the advanced developments which occurred in Seattle, and there was some interest in trying to expand the program very rapidly. A $6 million program was proposed. The medical advisory group, meeting with other health people interested in this problem, felt that the first step ought to be further demonstration of the Seattle operation.

The resolution principally was to develop three, four, or five centers in other areas of the country to see if we could duplicate the Seattle experience.

Mr. FOGARTY. The reason I have asked so much about this is that I received a letter from the foundation last December which interested me very much.

We will place the letter in the record.

(The correspondence referred to follows:)

MEMORANDUM OF NATIONAL KIDNEY DISEASE FOUNDATION, NEW YORK, N.Y., DECEMBER 1963

In June of 1963, the National Kidney Disease Foundation and the American Medical Association cosponsored a Conference on the Treatment of Chronic Uremia.

The medical workship of the conference formulated a resolution calling for the establishment of a limited number of research-oriented treatment centers. In the summer of 1963 the Public Health Service prepared a program proposal which would implement this resolution.

Hoping that Congress would pass the program proposal (which never reached the appropriate congressional committee), the foundation refrained from attempting to raise vast funds itself or to inspire widespread public action aimed at securing earmarked public funds for the establishment of the centers.

However, the time has now come to reverse the foundation's position and to issue a call for action. The time has come to mobilize support behind a request for Federal funds to help establish these desperately needed research-oriented treatment centers. The time has come to ask the public for assistance in securing funds to enable communities to accept the long-range responsibility for the maintenance of these centers.

The time has come to accept the challenge inherent in the following statement: "Historically, great medical discoveries have become available to all who might benefit from them shortly after they have proven practicable. It appears that the new techniques in the treatment of chronic kidney failure are the first such discoveries which might be withheld from general use."

The time has come to make these life-saving techniques available and to seek new and better ways to save victims of chronic uremia.

We urgently request your help in our efforts to have this call for action heard and acted upon.

We need people who will supply the leadership necessary if we are to attain the above-mentioned objectives.

We need people who will help provide information to the legislators who must act on our call.

We need people who are willing to give and get the funds needed to achieve these objectives.

A great opportunity lies before us. We have in our hands the power to save many lives—almost immediately. We can use that power only if we receive the help we need. Can we count on you?

(NOTE.—The information contained in the "Call for Action" will be made available to the public through news media and other appropriate channels on January 3, 1964. Please treat it as being reasonably confidential until that time.)

A CALL FOR ACTION BY THE NATIONAL KIDNEY DISEASE FOUNDATION

Recent experiences in the treatment of patients with chronic kidney failure by means of hemodialysis (with the artificial kidney), peritoneal dialysis, and the technique of kidney transplantation indicate that it is now possible to extend useful, comfortable, and functional life by these approaches in many patients who, with the usual methods of treatmet, would not long survive. These forms of treatment also introduce the realization that although methods of saving lives are now practicable, they are not readily available where and when they are needed.

It is estimated that the number who might have their lives prolonged by these new treatment methods is between 2,000 and 20,000 people annually.

At present, the facilities and programs available can handle only a few of the many patients who might be treated by these methods. In addition, there are no funds available with which to expand these programs and facilities. Therefore, the National Kidney Disease Foundation has embarked on a two-phase program to secure the necessary support for the establishment or expansion of such facilities from:

1. Individuals, corporations, foundations, and communities;
2. Specifically designated funds from the Federal Government.

In June of 1963, the National Kidney Disease Foundation and the American Medical Association cosponsored a conference on the treatment of chronic uremia. Participants represented government, medicine, industry, labor, social-welfare agencies, and the general public. The conference's medical workshop formulated the following resolution:

"It is recommended that funds be sought to establish, or where necessary, to expand a limited number of centers for research, training, and demonstration in the care of patients with chronic uremia in appropriate areas of the country, geographically situated so as to be maximally effective. These centers would begin immediately to meet the demand for treatment by being able to accept some patients with chronic uremia. They would serve as research, training, and demonstration centers which would be essential to the orderly and effective development of large-scale treatment centers assuming that such a development does take place. It is our belief that initial financing[1] should be requested through the usual agencies concerned with medical research and feasibility funding. Since necessary funds for new construction are not sufficiently available from presently established sources, it should be a major but not exclusive function of voluntary agencies to implement the financing of the program."

Following the conference, the Chronic Diseases Division of the U.S. Public Health Service prepared a program proposal which would, if approved and financed, implement the conference resolution. However, the proposal was never presented to the appropriate congressional committee for action and consequently the request for funds for the Department of Health, Education, and Welfare did not include specially earmarked funds for this purpose.

Because of the unique nature of this problem and the relative suddenness of its development, owing to the above-mentioned recent advances in treatment, we believe the securing of funds from existing appropriations for research-oriented treatment centers, as described in the conference resolution, would be extremely difficult.

The original proposal for the implementation of the resolution contained the following general provisions:

A. Funds are requested for distribution by the Division of Chronic Diseases of the Public Health Service:

1. To establish and/or expand a limited number of research-oriented artificial kidney centers for the long-range treatment of chronic uremia, $3 million.
2. To provide for the training of personnel for the operation of the centers and the utilization of existing artificial kidneys which are inoperative for long-range use, $1 million.
3. To provide for related research in the techniques of transplantation and peritoneal dialysis in connection with the centers and to provide for the construction of new research facilities without the use of matching funds, $1 million.
4. To provide for the establishment of a major pilot project to be operated by the Public Health Service, $1 million.

The total request to be in the amount of $6 million.

B. Funds are to be allocated only to communities willing to accept the long-range responsibility of financing and maintaining the centers after they are etsablished by this program.

The National Kidney Disease Foundation realizes that the annual request for funds for the Department of Health, Education, and Welfare has been presented in its final form with no provisions for this program. Nevertheless, the Foundation strongly urges emergency action to secure support on a supplementary basis in order to insure that this program will be placed in operation in 1964 rather than in 1965. The lives that can be saved during a single year should be sufficient cause for unusual attention and consideration being directed to this request.

The Foundation cannot accept the premise that it is too late for action.

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[1] Estimated at an average initial investment of $3 million per 10-bed, 30-patient center.

It calls upon the sensitivity of our legislative bodies to find the ways and means to sponsor, present, and approve this request.

The Foundation also calls on the American people to provide the supplementary funds needed for the long-range support of facilities that will be established when Federal funds are made available.

GERONTOLOGY

Mr. FOGARTY. You show a small increase in the gerontology program for next year. I though this was one that everyone in the country was interested in. What have you done in the past year that has been exciting?

Dr. GUTHRIE. We established a brandnew program in this area, with branch status. We were fortunate to recruit an excellent man in Dr. Austin Chinn, to head up this program. He came to us from Western Reserve University, and is one of the international experts in the field of gerontology. We established this program to begin the development of a meaningful national program aimed at helping the aged population.

They got off to a very successful start. Last year, Dr. Chinn was able to recruit some fine people into the program. He has held a number of conferences with the leading authorities in the country. He has developed four major program areas, which he feels are proper roles for the Federal Government to take.

Mr. FOGARTY. What are they?

FOUR PROGRAM AREAS IN GERONTOLOGY

Dr. GUTHRIE. First of all, he feels that physician education is one important program which the practicing physicians of the country need. They need to know more about the specific problems of health care of older people; not that the older people have too much in the way of different kinds of diseases, but the way in which you take care of the older patients is different. It must be different, if you are going to be successful in preventing disability.

He also feels that the training of more people in knowing how to take care of older aged people, particularly the professionals who are associated with physicians, is important. He has been working on a pilot situation with the University of Chicago in which they hope to bring together the medical school, the school of social work, the nursing school, and the dental school to develop a curriculum for training a new type of professional worker, who will be primarily knowledgeable about the overall situation of older people who have a health problem. With this training they will be able to help the physician and the other allied professional people in the successful care of an older person.

These people so often live alone; they live in situations where they cannot learn about new things; they are a little fearful. They are not sure how they can have health resources made available to them. These professionals will be taught ways in which they can bring services to these older people and work in conjunction with the hospital or the clinic. This training will also enable them to keep in touch with physicians and the older patients so that they overcome some of the present barriers in providing care for these folks.

Another area in which Dr. Chinn feels we need more information is in the study of what we would like to call a normal older aged population group. We don't have good data on groups of older people in their normal settings. In finding out just what their health problems are, he would like very much to develop a study program in communities composed almost exclusively of older people. As an example, some of these new communities are almost exclusively composed of people who are 55 or 60 years and older. He would like to study communities in which an older segment of the population is a high proportion. He would select a sample population group, to study over a long period of time, instituting various types of health care programs to see what is effective and what is not effective. He would assess the experience of different types of older people living in various settings that are developing around the country, so we may have continuous information coming from these studies to help us determine what we should advise the average community regarding what it needs to do in terms of health care services for the older population.

Mr. FOGARTY. Would you be doing much of this work in a city like St. Petersburg?

Dr. GUTHRIE. Some of it, yes.

Mr. FOGARTY. The "Today" show had this as a subject this morning. The city of St. Petersburg is not a very old city but as you know, they have an older population there, particularly in the wintertime. I guess the permanent population also. But there is some problem developing now, apparently. There are some complaints from the younger people in that area that the older people are not paying their way, in support of the community. This is a real problem developing in that particular area. Do you know anything about it?

Dr. GUTHRIE. I am familiar to some extent with some of the problems that older communities have had and that appear to be accumulating—if that is a proper word—an older, or a large proportion of older, aged people, in which complete planning for health needs has been neglected. This is one set of problems as opposed to the brand-new community which is starting out today. We are finding several areas around the country, where large populations, almost of city proportion, are composed exclusively of older age groups, in which they are planning a high level of community services, not only in the health field, but in many other areas of concern.

Now the older communities, that have used only the services available, we feel have a different set of problems, and we are going to see more of this. We need to and would like to learn about them and hope to be able to study this type of community, in addition to the newer communities for older people. We would also like to study an average community, in which there is a mixture of old and young people, and see what they need. They apparently have different needs than the first two situations. We don't have a great deal of information on these situations as yet.

Mr. FOGARTY. I hate to see these business people in these areas you are talking about now, take advantage of these older people as they are. This is happening in St. Petersburg and other places, where a couple retire on a fixed income, and under social security, they can only earn $1,200 in excess of their pension. So they are willing to work in some of these chain drugstores and other places for an average of 15 or 20 cents an hour, in order to supplement their income, and just exist. I would think that that would be an area that you could also pay some attention to in your studies. We don't like to see these people being taken advantage of by the business interests.

Dr. GUTHRIE. We have a project in New York City in which we are using the older person himself, with some specialized training, to be the health worker, or at least, the liaison, between the older folks, who are the potential patients, and the health care resources. In this instance, it happens the older people have spare time on their hands, and have had some kind of training, have good potential to do this work. We are finding that with a relatively small amount of additional training, they can perform an exceedingly good service, and especially where other resources are limited or nonexistent.

Mr. FOGARTY. Will you expand on that when you get the transcript back?

Dr. GUTHRIE. All right, sir.

Mr. FOGARTY. With an explanation of what you are doing in New York?

Dr. GUTHRIE. All right, sir.

(The information requested follows:)

NEW YORK HENRY STREET PROJECT

This project was approved last year by the Public Health Service for support as a community health service project to be conducted under the auspices of the Henry Street Settlement House in the lower East Side of New York City for the recruitment, training, and supervision of elderly volunteers in a low- and middle-income neighborhood to provide a variety of health services to the elderly residing in the neighborhood.

The Henry Street Settlement Center program for the elderly is located in a basement of Vladeck Houses, a public housing development. Close to 900 elderly persons live in this project, most of whom live alone. A survey conducted about 8 years ago revealed two significant facts: (1) the existence of a great number of health problems among the aged tenants of Vladeck Houses; (2) the existence of many able-bodied elderly persons in the area whose energies, desire to be useful, and abilities were untapped. Subsequently, a Department of Welfare worker was assigned to the Henry Street Settlement Center to organize a "Friendly Visiting Corps" which would utilize the services of these elderly persons. Although this social worker was ultimately reassigned, for 5 years the Friendly Visiting Corps continued to function independently with a hard core of 20 volunteers.

Last year financial support was made available through the Public Health Service for a demonstration program to expand this service, to document the findings, and to evaluate the effectiveness of the program.

The objective of the project in its current form is to provide through demonstration a useful pattern for volunteer service projects in many other urban centers. Approximately 100 elderly volunteers are being recruited, trained, and supervised to carry out a variety of health assistance tasks. Referrals for sevice are obtained from clinics and hospitals near the demonstration area, and from public housing management, the Department of Welfare, private agencies, and individuals. Services provided by volunteers include: help with light housekeeping, shopping, meal planning, and home medical routines for homebound elderly persons; the provision of escort service and reassuring companionship in connection with outpatient treatment; and friendly check-in home visits to convalescents and the incapacitated.

The training of the volunteer workers is conducted simultaneously on three levels. The volunteers are interviewed and instructed individually by project staff members; small group meetings are held for the purpose of discussing various types of visits and experiences; at large group meetings conducted by the staff of the demonstration project and augmented by the staff of referral agencies, the volunteers are provided additional training.

The findings are expected to reveal valuable information regarding the characteristics of a good volunteer, the characteristics of those elderly volunteers who give their services as opposed to those who do not, the satisfactions of the volunteers, and the effectiveness of the services rendered.

If the demonstration substantiates the value of this kind of service both to recipients and to donors, this project will serve to stimulate agencies and organizations throughout the Nation to create similar programs, and the experience gained can provide important guidelines for the development of this type of a service.

ORGANIZATIONS FOR OLDER PEOPLE

Mr. Fogarty. What about volunteer organizations in the older population? What is the largest one, do you know?

Dr. Guthrie. I am not sure I can give you that.

Mr. Fogarty. I am thinking of something like the organization for retired teachers. That is one that I know a little bit about.

Dr. Guthrie. There are a growing number of organizations for older people.

Mr. Fogarty. Yes, there are good and bad.

Dr. Guthrie. Yes.

Mr. Fogarty. The one for retired teachers seems to be a nonprofit organization. They have established three or four drugstores in the country, I think, against real opposition. Do you know anything about them? How they are running? I raised this question in a meeting in Baltimore last year. Someone claimed they did not have registered pharmacists in these stores. I went back and checked and found they were.

Dr. Guthrie. Many of these are local organizations in large metropolitan areas. And they have all sorts of names, Golden Age Clubs, and so forth.

Mr. Fogarty. The one I am speaking about is a national organization, with thousands of members.

Dr. Guthrie. Yes. To the best of my knowledge, we have worked with a number of these groups in conjunction with other groups, particularly in connection with projects in which they are participants, either in helping to identify an older age population group with which to work, or in serving as some resource in this connection. This is particularly true at the State and local level. They may be one of the sponsoring groups who have ready access to these people, at least for the purposes of conducting a project. The working relationship we have with these groups stems primarily from their particular interest in health problems and programs for older people.

NURSING HOMES

Mr. Fogarty. What are you doing about nursing homes?

Dr. Guthrie. Well, at the same time that we established the gerontology program, we established the Nursing Home Board.

Mr. Fogarty. Tell me the difference between a nursing home and a convalescent home and what other home is there?

Dr. Guthrie. Actually, there are a number of names for these institutions, that go anywhere from so-called chronic disease hospitals, on down to a domiciliary type of institution which may be handling three or four or five patients and providing relatively few, if any, health services. This is one of the problems in the field today. There are so many varieties of nursing homes, and many that don't actually perform health services.

We are trying, through the several interested national organizations, such as the American Medical Association, the American Hospital Association, the American Nursing Home Association, and the American Association of Homes for the Aged to more clearly establish identifications or classifications of those types of care facilities in which more and more older persons are being cared for.

Mr. Fogarty. This study has been going on quite a while, has it not?

Dr. Guthrie. It is a continuing activity.

Mr. Fogarty. Dr. Terry's predecessor called a meeting here in Washington 3 or 4 years ago on nursing homes.

Dr. Guthrie. This was the National Conference on Nursing Homes and various interested groups meet almost annually now to discuss the variety of mutual problems they are facing.

Mr. Fogarty. Didn't they recommend standards?

Dr. Christensen. They published a document, a guide for the development of standards, which came out about 2 years ago, was it not, Dr. Guthrie?

Dr. Guthrie. Yes.

Dr. Christensen. This is being utilized in many of the States, and just as it says, it is a guide for the States in order to develop the nursing home standards that the State wishes.

Mr. Fogarty. Standards and regulations are really a State problem, are they not? But this meeting, I thought was to try to help the States—provide a guide for them to develop standards.

Dr. Terry. Yes.

Dr. Guthrie. I was going to say, we now have a guide for what we term a "nursing home." Every State has a State licensing program and we are working now with these State licensing programs to identify those institutions which, from that point on, will be called nursing homes, and will come under a licensing program.

This still does not eliminate the many other kinds of facilities, but we are focusing our attention on the nursing home, as identified in this definition, and with which the Nursing Home Association and the American Hospital Association are now working. We have a multiphase program in this area.

One phase is encouraging the States to develop a program for upgrading standards in these homes.

We started with the environmental program, and we now have a complete training program in environmental sanitation which is now being carried out in a number of States.

The Council of State Governments is working with us on the development of some model legislation for nursing home standardization and licensing. This project has been developed this year.

We also are conducting a preliminary pilot study of the National Cost Survey of Nursing Homes. One of the big problems is coming up with some answers as to what it costs to maintain people in nursing homes, with various types of care. Since the nursing home industry is new and has so many independent operators, it has been very difficult to establish any common denominators of accounting. So the program, in cooperation with the national agencies, is developing a pilot survey on accounting and cost which we hope to eventually expand into a national survey. Many organizations, both official, voluntary, and professional, are anxious to get this type of information.

USE OF EXISTING COMMUNITY HEALTH SERVICES FOR THE AGED

Mr. FOGARTY. On page 86 in your justifications, you say:

> The problems of the aged and aging cannot wait until specialists have been trained, until the ideal types of services have been developed, or until all past research has been sifted and analyzed. Community health services exist which are serving current needs and providing necessary information. This program is now directly supporting a number of demonstration projects. An outstanding service project is in Baltimore, Md., which began as a care service located in a community hospital, and has developed into a coordinated program including ambulatory health care, home nursing care, information, and referral and social work services. In Providence, R.I., a combination public health nursing and social work service for housing center residents is highly successful.

Can you tell us a little more about that?

BALTIMORE PROJECT

Dr. GUTHRIE. The Baltimore project is with the Sinai Hospital. The Sinai Hospital serves an area of Baltimore which is composed principally of long-time permanent residents. Most of the older folks in that particular community live at home.

Mr. FOGARTY. They are kept in the home?

Dr. GUTHRIE. Yes. The older people and the young people. It is a family setting. They stay together in this particular area. They have, for a long period of time. So there is a great deal of continuity in the population. There is not much moving in and out of that area of Baltimore, and this hospital serves as a sort of community center for all of their medical needs.

There is a large nursing home, which is now affiliated with this hospital, through the means of this project. We feel this project has real potential in a setting of that type for demonstrating what a hospital can offer to its ambulatory older aged people who are still living in their homes, and who don't need to have any special community or special facilities set up but can rely on their present facilities.

This, of course, requires orienting the physician in the hospital and setting up special facilities within the hospital to take care of this particular population group.

They have done very well at it. They instituted a number of experimental types of services, in which they have sent workers out to the homes periodically to follow up and see that the patients are taking their medicine or doing the things that have been prescribed for them in the hospital. They bring the people in, or the people come in on their own, for such things as physical therapy and any diagnostic procedures. However, the real important point, I think, is that they are setting up a system whereby the older person is relieved of undue worry by knowing that he has resources available to take care of him—there are people who have both facilities and physicians, nurses, and other personnel interested in their care.

This has been successful from the viewpoint of the physician as well, because often these patients are difficult to reach; they have transportation problems and various difficulties, which, with the help of other trained people, or professional people on the hospital staff, can be overcome.

Mr. FOGARTY. Just on that point, the "Today" program, this morning showed a retired railroad engineer, living alone. He said by being careful he could make ends meet and live on about $5 a day, but the thing that worries him is getting sick and having to go to a hospital. That is the biggest fear they all have. Would this kind of a program eliminate some of that fear?

Dr. GUTHRIE. Yes, we feel it would.

I think there is no question that older people, once they have an illness and realize that that illness is causing them some disability, are certainly concerned. They have a fear of being immobilized from it or of being hospitalized.

Mr. FOGARTY. They cannot pay for it either.

Dr. GUTHRIE. That is part of it. Any of these programs which offer to them the opportunity of staying out of those predicaments, are encouraging. However, it does require a special attempt on the part of the hospital, or whoever is working with them, to be willing to make the modifications necessary to meet the needs of these people. We feel we are learning techniques that help dispel the concern and worry of the older persons through the knowledge that this service is available to them.

Mr. FOGARTY. Will you develop the description of the Baltimore project a little further when you get the transcript?

Dr. GUTHRIE. Yes, sir.

(The information requested follows:)

BALTIMORE SINAI HOSPITAL PROJECT

This project is now in its third year of operation and, through the establishment of an aging center, is a significant demonstration of the advantages to the community of broadening the scope of community hospital services for the aging population.

More specifically, this aging center has instituted three specific programs—an Information and Referral Center, an organized home care program, and a comprehensive medical services program. At the Information and Referral Center a trained social worker assists aged persons and their families in locating an appropriate source of assistance for their particular health-related problems. In addition to being a social service, this activity is a means whereby the hospital can perform case finding and can gain knowledge of the scope of problems facing the aging. Utilization of this service has expanded from 421 inquiries during the first year to 533 in the second.

Partially as a result of case finding through the Information and Referral Center, the home care program expanded and provided 4,622 patient-days of service in the second year as compared with 1,542 in the first. The purpose of the home care program is to enable aging persons with health problems to remain in their home or family environment as long as possible by bringing necessary health and health-related social services to them.

The third program is now providing comprehensive medical care, including nursing and social work services, both through a clinic and at home, to 239 aged persons who are medically indigent and without a personal physician. Through this activity, the hospital is also documenting service needs of this group.

In addition to becoming increasingly effective in providing these originally planned services, the center is expanding its program to meet needs uncovered through its 2 years of activity. Experimental programs in recreational therapy for the homebound and group-counseling therapy are being established in response to the psychological needs which are so often interrelated with health status. The recreational therapy service is a combination of occupational therapy and "friendly visiting," designed to meet needs of the incapacitated aging person for activity and for emotional support. The evident loneliness and fear of many patients also stimulated institution of group-counseling therapy to help them feel less anxious and more able to cope with their problems. The therapy sessions, where they find acceptance, respect, and reassurance, and have a chance to express their feelings have resulted in many instances of increased ability to communicate, increased interest in the world around them, and increased self-esteem as demonstrated by their taking more pride in their appearance. Moreover, the staff working with the group has developed more sympathy for and understanding of the problems of aging persons.

The project serves as a valuable resource for the orientation of doctors, dentists, nurses, social workers, and therapists in meeting the multiple health needs of the aged.

The Sinai Hospital project is a significant demonstration that the role of the hospital can be expanded effectively with real benefit to the community it serves, and to the hospital and to its professional personnel.

HOUSING CENTER FOR OLDER PEOPLE IN PROVIDENCE

Mr. Fogarty. What about the Providence project?

Dr. Guthrie. In the Providence situation, one of the things I referred to earlier, is the development of housing centers for older people, community centers, where older people can come together to live. The question has been raised in all of these, what to do about health care services. Most of these institutions do not want to turn away people if they have a health problem, and yet they don't want to take on problems that they cannot properly manage in the housing development. We are now working with a number of these housing programs. Our Providence project is a situation in which they have employed a full-time social worker and a public health nurse, and it is their business to keep track of the people as they come into this development, learn of any health problems they may have, and serve as a focus for their health needs. They can guide them to whatever specialized medical care they may need. On the other hand, when these people return from visiting their doctor, or the hospital, the public health nurse can make her services available, can give them medications periodically, or can interpret the physician's instructions to them. If they need a special diet, the nurse can help them select their diet and teach them to prepare it.

The social worker, in the same way, is trained in health referrals. When these people have a health problem, she can help guide them to the kind of resources in the community they might need. She, in fact, serves as a sort of a localized information and referral service. She is also trained in helping to give some of the basic elements of home care.

We found that this really saves a lot of specialized physicians' time. They don't have to come in as frequently. They have somebody there who they know is watching the patient. It has also proved that these people don't wait so long to go and get something done, if they know there is someone there who knows them and can help them.

Mr. Fogarty. Will you expand on that also?

Dr. Guthrie. I certainly will be glad to.

(The information requested follows:)

Providence Dexter Manor Project

This is a 3-year project which was initiaited in June 1962, to be conducted by the Providence District Nursing Association in Dexter Manor, a low-cost apartment community especially designed for its 280 elderly residents.

From the reports of the first year of operation at Dexter Manor, it seems evident that the inclusion of a public health nurse within a housing project which is the residence of a large number of aging persons can be a significant means of maintaining health and preventing possible morbidity.

Evidence of this may be seen in the greater participation by residents of Dexter Manor in groups preventing health services as compared with that of elderly persons living in other housing projects in the area.

The first group preventive service was conducted the latter part of 1962. Asian flu vaccine was offered to aged residents living in all public housing as well as Dexter Manor. Forty-five percent of the Dexter Manor tenants received injections as compared with 31 percent of the residents of the other housing projects.

Later diabetes testing was offered by the Rhode Island Medical Society and the Rhode Island Department of Health. In Dexter Manor, 81 percent of the 285 Dexter Manor residents were tested as compared to only 17 percent of the 1,100 aged residents of other housing projects. A contributing factor to the wide variance in response was felt to be the positive influence of a nurse in residence at Dexter Manor and the positive influence people in the same age group have on one another.

Last June, by cooperative planning with the Rhode Island Tuberculosis and Health Association and the city health and recreation departments, the Dexter Manor residents were transported to have chest X-rays. This service was available only to residents of Dexter Manor. Of the 140 tested, 18 were advised to have large X-rays made. Eleven of the eighteen tests were found to be negative, while the remainder revealed three cases of pulmonary fibrosis, and one case each of questionable pathology, a suspicious mass on the lung, emphysema and chronic bronchitis.

From October through December of 1963, direct medical nursing care under medical supervision was given to 19 patients, involving a total of 219 visits, as compared to 166 visits to 15 patients for the comparable quarter a year ago. Health maintenance visits such as those to stroke victims, diabetics, and heart patients have increased from 50 visits for the October–December quarter of 1962 to 112 for the comparable period in 1963.

It is anticipated that patterns of care developed at Dexter Manor can provide valuable guidelines for the creation of programs of health services in other housing projects for the aged.

Mr. **Fogarty.** Is there anything else you want to say?

Dr. **Guthrie.** No, sir.

Mr. **Fogarty.** Thank you.

JUSTIFICATION MATERIAL

(The justification material submitted to the committee follows:)

Chronic Diseases and Health of the Aged

Amounts available for obligation

	1964	1965
Appropriation	$53, 377, 000	$53, 769, 000
Supplemental pending before Congress	+2, 277, 000	-------------
Transfer to "Salaries and expenses, Office of the Surgeon General" (42 U.S.C. 226)	−5, 000	-------------
Proposed transfer from "National Heart Institute" due to Uniformed Services Pay Act of 1963	+252, 000	-------------
Comparative transfer from "Salaries and expenses, Office of the Surgeon General"	+49, 000	-------------
Total	55, 950, 000	53, 769, 000

Obligations by activities

Description	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Grants:						
(a) Research	------	$2,020,000	------	$1,811,000	------	−$209,000
(b) Formula grants to States:						
(1) Cancer	------	3,500,000	------	3,500,000	------	------------
(2) Heart	------	7,000,000	------	7,000,000	------	------------
(3) Other chronically ill and aged	------	13,000,000	------	11,750,000	------	−1,250,000
(c) Project:						
(1) Cancer	------	4,850,000	------	5,273,000	------	+423,000
(2) Neurological and sensory	------	2,950,000	------	3,450,000	------	+500,000
(3) Other chronically ill and aged	------	7,000,000	------	7,000,000	------	------------
(d) Training	------	------------	------	100,000	------	+100,000
(e) Mental retardation planning	------	2,200,000	------	------------	------	−2,200,000
Research, training, and technical services	880	13,430,000	903	13,885,000	+23	+455,000
(a) Cancer control	189	2,171,000	189	2,205,700	------	+34,700
(b) Diabetes and arthritis control	75	1,139,400	79	1,197,900	+4	+58,500
(c) Heart disease control	399	5,556,200	399	5,651,400	------	+95,200
(d) Neurological and sensory disease control	93	1,709,500	97	1,795,700	+4	+86,200
(e) Gerontology	30	916,000	39	1,001,700	+9	+85,700
(f) Nursing home services	30	517,800	36	585,600	+6	+67,800
(g) Care and preventive services	64	1,420,100	64	1,447,000	------	+26,900
Total obligations	880	55,950,000	903	53,769,000	+23	−2,181,000

Obligations by objects

	1964 estimate	1965 estimate	Increase (+) or decrease (−)
Total number of permanent positions	880	903	+23
Full-time equivalent of all other positions	54	54	------------
Average number of all employees	831	855	+24
Number of employees at end of year:			
Permanent positions	843	865	+22
Other	92	92	------------
11 Personnel compensation:			
Permanent positions	$6,193,400	$6,558,800	+$365,400
Positions other than permanent	337,200	337,200	------------
Other personnel compensation	39,000	24,300	−14,700
Total personnel compensation	6,569,600	6,920,300	+350,700
12 Personnel benefits	930,300	960,200	+29,900
21 Travel and transportation of persons	1,058,000	1,084,000	+26,000
22 Transportation of things	108,000	115,000	+7,000
23 Rent, communications, and utilities	188,000	198,000	+10,000
24 Printing and reproduction	48,000	48,000	------------
25 Other services	1,359,000	1,365,900	+6,900
Services of other agencies	56,000	56,000	------------
Research contracts	2,040,000	2,040,000	------------
Payment to:			
"Bureau of State Services management fund"	627,100	658,600	+31,500
"National Institutes of Health management fund"	30,000	30,000	------------
26 Supplies and materials	201,000	209,000	+8,000
31 Equipment	275,000	260,000	−15,000
41 Grants, subsidies, and contributions	42,460,000	39,824,000	−2,636,000
Total obligations by objects	55,950,000	53,769,000	−2,181,000

Summary of changes

1964 enacted appropriation	$53, 377, 000
Supplemental pending before Congress	2, 277, 000
Comparative transfers from other accounts	49, 000
Transferred to "Salaries and expenses, Office of the Surgeon General"	—5, 000
Proposed transfer from "National Heart Institute"	252, 000
Total estimated obligations, 1964	55, 950, 000
1965 estimated obligations	53, 769, 000
Total change	—2, 181, 000
Increases:	
A. Built-in:	
1. Annualization of step 2 of civil service pay increase	104, 700
2. Annualization of uniformed services pay increase	85, 000
3. Annualization of 35 positions new in 1964	92, 000
4. Pro rata share of annualization of new positions in 1964 for the Bureau of State Service management fund	11, 400
Subtotal, built-in increases	293, 100
B. Program increases:	
1. Increase in cancer project grants	423, 000
2. Increase in neurological and sensory project grants	500, 000
3. Initiate research training grant program	100, 000
4. Expansion of diabetes and arthritis program (4 positions)	33, 000
5. Expansion of neurological and sensory disease control program (4 positions)	34, 000
6. Expansion of gerontology program (9 positions)	73, 900
7. Expansion of nursing home services program (6 positions)	55, 000
8. Increase in the pro rata share of the Bureau of State Services management fund	5, 000
Subtotal, program increases	1, 223, 900
Gross increases	1, 517, 000
Decreases:	
1. Nonrecurring equipment and travel	23, 000
2. 1 less day's pay in 1965 (262 days in 1964; 261 days in 1965)	16, 000
3. Decrease in research grants	209, 000
4. Decrease in other chronically ill and aged formula grants to States	1, 250, 000
5. Nonrecurring mental retardation planning grants	2, 200, 000
Subtotal, decreases	3, 698, 000
Total net change requested	—2, 181, 000

EXPLANATION OF CHANGES

Increases

Cancer project grants.—An increase of $423,000 is requested to support four demonstrations of cervical cancer control projects, four field studies of the application of the mammography technique in detecting and diagnosing breast cancer, and three field trials in the use of a flexible proctosigmoidoscope for detecting and diagnosing diseases of the lower bowels.

Neurological and sensory project grants.—An increase of $500,000 is requested for training projects and community services demonstrations and studies with particular emphasis on mental retardation. Approximately five institutional training awards for the development or enrichment of curriculum, 10 refresher or short-term training courses, and seven community demonstrations and studies in the early detection, diagnosis, and care of persons with neurological and sensory disorders will be supported.

Training grants.—An increase of $100,000 is requested to initiate a research training grant program to support institutions in providing training opportunities for researchers interested in the community aspects of chronic disease control.

Diabetes and arthritis control.—An increase of $33,000 and four positions is requested for developing and promoting special training programs in the problems of arthritis for physical therapists, nurses, occupational therapists, and other paramedical personnel.

Neurological and sensory disease control.—An increase of $34,000 and four positions is requested to support mental retardation activities with emphasis on the early detecton of clinically unrecognizable disorders through laboratory tests.

Gerontology.—An increase of $73,900 and nine positions is requested for initiating a program designed to orient the practicing physician to the special health problems of the aged in cooperation with community hospitals, State and local medical societies, health departments, and other public and voluntary organizations.

Nursing home services.—An increase of $55,000 and six positions is requested for making selective assignments of trained public health workers including physicians, nurses, nutritionists, or other professional personnel to assist States and local health departments in raising the standards of patient care in nursing homes.

Bureau of State Services management fund.—An increase of $5,000 is requested for the pro rata share of the Bureau of State Services management fund.

Decreases

Research grants.—The decrease of $209,000 will provide $1,811,000 for research grants which will support 38 grants, the same total number as in 1964.

Other chronically ill and aged formula grants to States.—The decrease of $1,250,000 results from a change in the Federal-State matching requirements while maintaining the same total potential matched program.

Mental retardation planning grants.—The planning grants of $2,200,000 are to be appropriated on a one-time basis in 1964, but will remain available for obligation through 1965.

Explanation of transfers

	1964 estimate	1965 estimate	Purpose
Transfer to: "Salaries and expenses, Office of the Surgeon General."	−5,000	0	Centralization of grants policy activities.
Transfer from: "National Heart Institute."	+252,000	0	Proposed transfer due to Uniformed Services Pay Act of 1963.
Comparative transfer from: "Salaries and expenses, Office of the Surgeon General."	+49,000	0	Decentralization of accounting point costs.

	Budget estimate to Congress	House allowance	Senate allowance	Appropriation
1962	$11,033,000	[1] $3,958,000	$11,033,000	$10,958,000
1963	22,942,000	22,942,000	22,942,000	22,942,000
1964	55,907,000	53,377,000	53,377,000	53,377,000
Supplemental	2,277,000	2,277,000	2,277,000	----------
1965	53,769,000	----------	----------	----------

[1] Supplemental of $7,075,000 not considered by House.

Distribution of $50 million ceiling imposed by section 314(c) of the Public Health Service Act

	1964 estimate	1965 estimate	Increase (+) or decrease (−)
Community health programs (including mental health activities) and environmental health programs	$46,850,000	$37,900,000	−$8,950,000
Grants	41,850,000	32,900,000	−8,950,000
Formula	39,950,000	31,000,000	−8,950,000
Chronic diseases and health of the aged	(13,000,000)	(11,750,000)	(−1,250,000)
Community health practice and research	(14,000,000)	(10,000,000)	(−4,000,000)
Mental health activities	(10,950,000)	(6,750,000)	(−4,200,000)
Radiological health	(2,000,000)	(2,500,000)	(+500,000)
Training: Schools of public health [1]	1,900,000	1,900,000	------------
Direct operations [2]	5,000,000	5,000,000	------------

[1] Besides being within the $50,000,000 limitation, there is a limitation of $2,500,000 on this item.

[2] Earmarked for direct operations. Actual obligations will probably be less.

The very commonness of chronic diseases indicates something of their significance and the need for developing and evaluating programs for their control. For example, more than 40 percent of all Americans are troubled by one or more chronic diseases and conditions which limit in various ways the activities of some 20 million Americans.

This kind of fact points up the magnitude of the problem facing health agencies responsible for reducing the high toll of death and disability caused by chronic diseases and necessitating extensive research.

Research grants

1964 estimate	$2,020,000
1965 estimate	1,811,000
Decrease	−209,000

Estimated grant requirements

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Number	Amount	Number	Amount	Number	Amount
1. Continuations:						
A. Noncompeting	13	$453,000	22	$1,030,000	+9	+$577,000
B. Competing	9	412,000	5	170,000	−4	−242,000
2. Supplementals	(2)	19,000	(2)	19,000	------	----------
3. New grants	16	1,063,000	11	507,000	−5	−556,000
Subtotal	38	1,947,000	38	1,726,000	------	−221,000
4. Increase in indirect costs—						
A. To 20 percent [1]	------	73,000	------	64,000	------	−9,000
B. To 25 percent [2]	------	----------	------	21,000	------	+21,000
Subtotal	------	73,000	------	85,000	------	+12,000
5. Total	38	2,020,000	38	1,811,000	------	−209,000

[1] Relates to all grants approved for support in 1964 and 1965.

[2] Relates to proposed increase in indirect cost rate to 25 percent for grants awarded on or after Jan. 1, 1965.

The goal of research conducted under this activity is to aid in the delineation of chronic disease problems, improve methods of chronic disease control and evaluate existing techniques and community programs.

Areas of research include preventive medicine, methods for the management of chronic disease, and methods for the provision of restorative services; all with the ultimate objective of preventing disability and dependency in the population as a result of chronic illness.

PREVENTIVE MEDICINE

In conjunction with a multiple screening program in a group practice on the west coast, techniques are being tested for the prophylactic treatment of diabetes. It is believed that early treatment of asymptomatic cases will prevent the later development of overt disabling disease. Methods are also under study for the early detection and prophylactic treatment of arthritis, hypertension, and other chronic diseases. It is hoped that the methods of early detection and treatment developed in this project will provide a sound basis for community programs in preventive medicine.

DISEASE MANAGEMENT

In a southern hospital, an intensive care unit for the treatment of patients with heart attacks is under study. This unit makes use of special monitoring devices to keep track of the patient's condition moment by moment, and uses an auxiliary pump to relieve the pumping load on the heart, if this research indicates that units of this type can reduce the mortality and disability due to heart attacks, it is believed that these techniques can be widely applied in community hospitals throughout the Nation.

RESTORATIVE SERVICES

A project in New York City is aimed at developing methods for the rehabilitation of aged patients with cardiovascular disease. Methods are also being explored to spread the concept and value of rehabilitation of the older disabled patient to both the medical profession and the public.

OTHER PROJECTS

Other proposed or current projects include the evaluation of physical activity programs as a means of reducing obese children, evaluation of posthospital community services received by patients discharged from a chronic disease hospital, an epidemiologic study of ulcerative colitis, a study of the effects of placement in a nursinfg home on the social adjustment of the aged, and study of methods for the prevention of rheumatic fever.

Formula grants to States

1964 estimate	$23, 500, 000
1965 estimate	22, 250, 000
Decrease	—1, 250, 000

Summary of program

	1964 estimate	1965 estimate	Decrease
(*a*) Cancer	$3, 500, 000	$3, 500, 000	
(*b*) Heart	7, 000, 000	7, 000, 000	
(*c*) Other chronically ill and aged	13, 000, 000	11, 750, 000	—$1, 250, 000

(*a*) *Cancer*

This formula grant program is designed to stimulate and aid State cancer control programs. Each State receives a minimum of $25,000. The remainder is allocated among the States under a formula that considers population, financial need, and cancer deaths.

State public health agency cancer control programs operate cancer clinics, provide hospitalization for diagnostic purposes, furnish local public health nursing and related services, and maintain statistical and educational services.

In 1962, State expenditures for preventive services, outpatient services, and hospitalization exceeded $27 million of which $3.3 million were formula grant funds. In 1963, State expenditures included $3.4 million of formula grant funds. State utilization of 1964 funds is expected to follow the 1962–63 pattern.

The State public health agencies and the Public Health Service are currently reviewing public health participation in the national cancer control effort. This study has the guidance of specially designated committees of the Advisory Committee to the Cancer Control Program and the State Health Officers' Organization. Positive recommendations expected to evolve from this study will point the way for improved utilization of public health funds in cancer control.

Allocations of grant-in-aid funds for cancer control

State or territory	1963 actual	1964 estimate	1965 estimate
Alabama	$71,500	$71,300	$70,400
Alaska	25,000	25,000	25,000
Arizona	27,200	28,700	29,700
Arkansas	46,900	46,300	45,700
California	229,700	233,600	238,200
Colorado	33,400	34,000	34,400
Connecticut	38,500	38.500	38.800
Delaware	25,000	25,000	25,000
District of Columbia	25,000	25,000	25,000
Florida	91,300	95,500	100,100
Georgia	79,100	79,600	79,000
Hawaii	25,000	25,000	25,000
Idaho	25,000	25,000	25,000
Illinois	159,200	157,500	155,600
Indiana	80,100	79,400	78,100
Iowa	54,500	53,200	52,100
Kansas	43,800	43,200	42,700
Kentucky	65,200	64,800	64,200
Louisiana	66,500	66,400	67,500
Maine	25,000	25,000	25,000
Maryland	49,600	49,000	49,100
Massachusetts	89.000	86,600	84,600
Michigan	125,700	126.700	127,500
Minnesota	64,200	63,000	62,600
Mississippi	59,800	59,100	58,400
Missouri	80,000	78,500	76,700
Montana	25,000	25,000	25,000
Nebraska	31,600	31,300	30,600
Nevada	25,000	25,000	25,000
New Hampshire	25,000	25.000	25,000
New Jersey	98,200	97,200	98,400
New Mexico	25,000	25,000	25,000
New York	272,100	271,900	270,900
North Carolina	91,100	91,400	90,100
North Dakota	25,000	25,000	25,000
Ohio	159,500	161,600	162,400
Oklahoma	48,800	49,300	49,600
Oregon	35,200	35,800	35,300
Pennsylvania	197,700	195,600	194,300
Rhode Island	25,000	25,000	25,000
South Carolina	53,300	52,900	52,400
South Dakota	25,000	25,000	25.000
Tennessee	75,300	74,500	74.000
Texas	167,000	169,200	172,700
Utah	25,000	25,000	25,000
Vermont	25,000	25,000	25,000
Virginia	72,600	73,200	74,600
Washington	50,000	50,600	50,500
West Virginia	37,900	36,800	36,700
Wisconsin	71,700	71,300	69,500
Wyoming	25,000	25,000	25,000
Guam	16,800	16,200	16,600
Puerto Rico	57,600	57,400	57,300
Virgin Islands	8,400	8,900	8,700
Total	3,500,000	3,500,000	3,500,000

(b) *Heart*

This formula grant program is designed to develop, expand, and improve State heart disease control programs. Each State receives a minimum of $50,000. The remainder is allocated among the States under a formula that considers population and financial need.

Recent program efforts have been directed to improving the quality and quantity of State heart disease activities carried on with grant funds. Considerable progress was reflected in State plans and revisions submitted for 1964. Distribution of the "Criteria List of Possible Uses of Grant-in-Aid Funds" and testing of the "Guide for State Plan for Heart Disease Control" have proved excellent aids to States in developing control programs. The criteria list is continually kept up to date. The guide has been tested in 13 States and it is planned to introduce this technique to all State health departments by the end of 1965.

Although the increased appropriation for grants to States in 1963 was not received until after States had made initial plans for the grant funds, State budgets showed an increase of $1,400,000 available for supporting heart disease control activities. It is anticipated that in 1964 and 1965 there will be an increase in State and local funds budgeted, and optimal utilization of the Federal grant.

Through improved program planning and review procedures, it is expected that the formula grant funds will support more stroke prevention and rehabilitation programs, laboratory services for heart disease diagnosis, and general services for cardiac patients by 1965.

Allocations of grant-in-aid funds for heart disease control

State or territory	1963 actual	1964, estimate	1965, estimate
Alabama	$162, 400	$161, 800	$159, 700
Alaska	52, 500	52, 700	52, 800
Arizona	82, 900	85, 200	86, 100
Arkansas	116, 000	114, 600	113, 500
California	353, 700	360, 000	366, 700
Colorado	88, 600	89, 900	90, 700
Connecticut	93, 400	93, 200	94, 000
Delaware	55, 800	56, 100	56, 200
District of Columbia	61, 400	61, 500	61, 600
Florida	180, 500	185, 700	189, 700
Georgia	175, 000	175, 900	174, 000
Hawaii	63, 200	63, 400	63, 200
Idaho	66, 100	66, 500	66, 700
Illinois	243, 500	239, 800	237, 900
Indiana	157, 500	156, 400	154, 300
Iowa	118, 000	115, 600	114, 700
Kansas	102, 400	101, 500	100, 600
Kentucky	147, 400	145, 700	144, 100
Louisiana	149, 000	148, 300	150, 600
Maine	74, 400	74, 400	73, 600
Maryland	115, 600	114, 300	114, 600
Massachusetts	153, 700	150, 400	149, 200
Michigan	217, 900	220, 100	222, 800
Minnesota	134, 100	131, 700	130, 600
Mississippi	144, 200	142, 700	141, 200
Missouri	150, 000	147, 100	144, 200
Montana	64, 200	64, 900	64, 800
Nebraska	83, 200	83, 000	82, 000
Nevada	53, 600	54, 200	54, 600
New Hampshire	63, 100	63, 000	62, 700
New Jersey	165, 800	164, 600	167, 100
New Mexico	74, 900	75, 400	75, 200
New York	361, 600	361, 800	364, 100
North Carolina	200, 600	200, 500	196, 500
North Dakota	66, 300	66, 300	64, 900
Ohio	258, 900	263, 400	266, 000
Oklahoma	112, 900	114, 100	114, 500
Oregon	89, 000	89, 900	88, 600
Pennsylvania	301, 900	298, 600	298, 400
Rhode Island	67, 700	67, 500	67, 600
South Carolina	136, 800	135, 900	134, 600
South Dakota	67, 700	67, 700	67, 600
Tennessee	166, 400	164, 500	163, 600
Texas	301, 800	305, 900	311, 000
Utah	71, 900	72, 600	72, 700
Vermont	58, 200	58, 000	57, 700
Virginia	159, 600	160, 800	162, 600
Washington	111, 700	112, 800	113, 000
West Virginia	102, 100	99, 400	99, 000
Wisconsin	142, 500	142, 800	140, 800
Wyoming	55, 400	55, 900	55, 300
Guam	33, 500	32, 300	33, 200
Puerto Rico	152, 700	151, 800	151, 100
Virgin Islands	16, 800	17, 900	17, 500
Total	7, 000, 000	7, 000, 000	7, 000, 000

(c) *Other chronically ill and aged*

This formula grant program is designed to provide basic support for statewide programs for the chronically ill and aged. Each State receives a minimum of $60,000. The remainder is allocated among the States under a formula that considers general population, financial need, and the higher aging population.

Recognizing that nursing home patients represent only a small percentage of the chronically ill and aged needing health services, 40 States reported addition of activities in home care and nursing services to homebound patients. In many States, considerable attention is being given to provide home care services in rural areas where official health department and voluntary agency programs are nonexistent.

Another encouraging aspect of many State activities is the emphasis being given to programs for the prevention of disease and disability through early detection. Public health officials have long agreed that the best long-range solution to the health problems of the chronically ill and aged is prevention. Over 25 States have initiated detection and screening programs in diabetes, glaucoma, and dental examination of homebound and nursing home patients since this grant program began in 1962.

It is evident that the urgency and importance of providing health services to the chronically ill and aged is now recognized by a majority of health agencies, and that the development of basic, if minimum, programs is underway. However, the magnitude of the problem is such that it will require the best efforts of Federal, State, and local governments employing all available community resources, including those of voluntary agencies, to meet the health needs of our population.

In 1965 there is a decrease of $1,250,000 in this grant, from $13 million in Federal funds to $11,750,000. At the same time, the matching requirement is being changed from two Federal dollars to each State dollar, to one and a half Federal dollars to each State dollar. This means that the total potential matched program including both Federal and State funds in both years is $19,500,000.

Allocations of grant-in-aid funds for the chronically ill and aged

State or territory	1963 actual	1964 estimate	1965 estimate
Alabama	$304, 200	$302, 400	$268, 200
Alaska	60, 000	60, 000	60, 000
Arizona	83, 300	85, 900	79, 900
Arkansas	222, 000	217, 500	189, 600
California	829, 800	838, 400	762, 900
Colorado	114, 800	114, 600	103, 600
Connecticut	130, 000	131, 400	118, 900
Delaware	60, 000	60, 000	60, 000
District of Columbia	60, 000	60, 000	60, 000
Florida	416, 900	425, 600	399, 700
Georgia	321, 200	321, 500	284, 400
Hawaii	60, 000	60, 000	60, 000
Idaho	60, 000	60, 000	60, 000
Illinois	571, 900	571, 000	507, 400
Indiana	320, 400	320, 300	282, 400
Iowa	237, 100	231, 300	204, 100
Kansas	175, 800	173, 200	152, 100
Kentucky	294, 500	292, 200	257, 000
Louisiana	255, 600	255, 800	232, 700
Maine	85, 600	86, 200	75, 900
Maryland	167, 500	165, 600	147, 900
Massachusetts	338, 000	334, 100	293, 500
Michigan	449, 800	459, 100	417, 900
Minnesota	265, 200	260, 200	230, 400
Mississippi	271, 400	267, 400	233, 200
Missouri	338, 200	333, 800	290, 600
Montana	60, 000	60, 000	60, 000
Nebraska	117, 900	115, 300	101, 700
Nevada	60, 000	60, 000	60, 000
New Hampshire	60, 000	60, 000	60, 000
New Jersey	332, 600	332, 700	301, 900
New Mexico	60, 000	60, 000	60, 000
New York	941, 200	939, 200	846, 900
North Carolina	370, 400	368, 500	324, 600
North Dakota	60, 000	60, 000	60, 000
Ohio	600, 800	611, 600	553, 800
Oklahoma	205, 200	206, 200	185, 300
Oregon	126, 400	127, 600	113, 600
Pennsylvania	759, 900	762, 100	682, 400
Rhode Island	61, 600	61, 800	60, 000

Allocations of grant-in-aid funds for the chronically ill and aged—Con.

State or territory	1963 actual	1964 estimate	1965 estimate
South Carolina	$209, 200	$207, 500	$183, 400
South Dakota	64, 100	62, 400	60, 000
Tennessee	328, 400	325, 600	288, 000
Texas	653, 300	657, 900	602, 200
Utah	60, 000	60, 000	60, 000
Vermont	60, 000	60, 000	60, 000
Virginia	277, 900	279, 000	251, 500
Washington	188, 200	189, 300	169, 400
West Virginia	159, 300	157, 100	139, 600
Wisconsin	286, 800	287, 600	255, 000
Wyoming	60, 000	60, 000	60, 000
Guam	60, 000	60, 000	60, 000
Puerto Rico	223, 600	221, 100	198, 400
Virgin Islands	60, 000	60, 000	60, 000
Total	13, 000, 000	13, 000, 000	11, 750, 000

Project grants

1964 estimate	$14, 800, 000
1965 estimate	15, 723, 000
Increase	+923, 000

Summary of program

	1964 estimate	1965 estimate	Decrease
(*a*) Cancer	4, 850, 000	5, 273, 000	+423, 000
(*b*) Neurological and sensory	2, 950, 000	3, 450, 000	+500, 000
(*c*) Other chronically ill and aged	7, 000, 000	7, 000, 000	-------------

(*a*) *Cancer*

Project grants are available to stimulate and assist medical and scientific insitutions, schools, local agencies, professional societies, and individuals to develop and demonstrate cancer control programs, test and improve cancer control techniques, gain and expand professional and technical competencies in cancer control, and explore needs and means of communicating cancer control information among professional health workers and the laity.

A total of $5,273,000 is requested for cancer projects for 1965, including an increase of $423,000 which is needed to further some of the most exciting advances of 1963 and 1964.

In 1963, the 14-step protocol for control of cervical cancer among the population groups most subject to this disease has begun to show that thorough coordination of all steps from patient recruitment through treatment of all pelvic disease discovered greatly improves the results obtained from application of the Papanicolau detection technique. In 1964, a conference of project medical personnel will be held to help the Public Health Service gain maximum value from the experience of projects that have been operating for a year or more. In 1965, four new projects will be sought at an estimated grant cost of $170,000.

In 1963, the senior clinical traineeship grants excited stiff competition, even though potential candidates had only 3 months in which to line up training plans and make application. Over 140 applications were received, of which 99 were awarded. In 1964 and 1965, the program will continue at the level of 100 awards.

A minimum of four new grant projects for field studies of applications of mammography should begin by 1965. In 1963, a study of the reproducibility and reliability of this X-ray technique for detection and diagnosis of breast cancer was concluded. The results make it mandatory to provide this diagnostic aid to clinicians everywhere as rapidly as possible. In 1964, the Public Health Service is making an extraordinary effort to inform the profession about mammography and to train radiologists and X-ray technicians in its use.

The procedure is somewhat complex, requiring special adjustment of the X-ray equipment, and precise exposure and processing of the film, as well as special training for the radiologist. By 1965, field studies should be initiated to investigate the limitations of mammography's use. It is believed that an effective beginning can be made with four projects for $160,000 in 1965.

Currently, cancer of the breast is responsible for about 25,000 deaths each year. Survival of patients with breast cancer is directly related not only to early detection but also to the extent and accuracy of the diagnostic information that is available to the clinician for use in planning treatment. Mammography is so valuable in this regard that the clinicians who have been exposed to it now demand its use routinely.

The other new cancer detection aid that is expected to reach the field trial stage in 1965 is the flexible proctosigmoidoscope. Under development through engineering contracts in 1963 and 1964, this instrument is expected to greatly improve the medical profession's capability for detection and diagnosis of diseases of the lower bowels. It will give the examining physician a view of much more of the interior surface of the lower colon than is possible with existing rigid instruments. At the same time, the instrument will be so much less annoying to the patient that the characteristic reluctance to submit to the examination should be greatly reduced. It is expected that a prototype of a simple instrument suitable for office use by general practitioners and others will be available early in fiscal year 1965. Three intensive field trial projects, requiring new grant funds of $93,000, should be initiated at once. If this instrument is as successful as it now shows hope of becoming, it may be as important in its field as mammography and the Papanicolau smear have been in their areas of application.

Cancers of the colon-rectum area cause about 41,000 deaths annually. The appearance of externally recognizable symptoms of this disease is characteristically late in its course. The principal hope of saving lives and reducing the extent of treatment required rests upon making the examination of asymptomatic patients easier for the patient to accept, and more efficient for the examining physician.

In addition to the increases described above, a significant change is expected in cytotechnician training. Steps are being taken, after 3 years of experience with many of the schools, to concentrate grants among those training 4 to 10 technicians annually. It is expected that the results will be to reduce the number of schools receiving support and to increase from about 275 to about 300 the number of students enrolled without increasing the funds invested.

(*b*) *Neurological and sensory*

Neurological and sensory disease project grants are available to expand and improve services at the community level to persons suffering from neurological and sensory impairments including mental retardation, and to increase the number of trained personnel to provide these services.

In order to establish a firm basis for State planning and to stimulate adequate programing, States are being encouraged to assess their problems and needs. to determine and relate the available resources to these needs, and to encourage comprehensive approaches to providing community services for persons suffering from neurological and sensory disorders. Through 1963, 14 States have been aided in undertaking these survey projects. It is planned to assist seven States a year until each has had the opportunity to complete planning activities.

TRAINING

One of the major problems in establishing and providing community services in neurological and sensory diseases is the insufficient number of qualified medical and allied medical personnel specialized in this area. To meet this need, a program of specialized training of physicians and other health workers is now underway. In 1963, 2 physicians and 52 allied health workers were awarded traineeships, and in 1964, it is planned to support 10 and 45 respectively.

Approximately 18 institutional training grants will be in effect in 1964. These include awards to institutions in Washington, D.C., and Boston for pilot programs in the training of opthalmic assistants and for formalized training in electroencephalography. The American Board of Otolaryngology is being assisted in determining the status of medical training in communicative disorders and a national medical foundation is assessing the need for trained opthalmic assistants. Two training projects in Indiana and Louisiana included the establishment of hospital speech and hearing clinics. These projects will provide comprehensive clinically oriented training experience in a medical environment for audiologists and speech pathologists, and will demonstrate the function of a speech and hearing clinic in a medical setting.

An increase of $250,000 is requested in 1965 to build upon the initial advances made in this long neglected area of professional education. This increase will provide 5 new institutional grants for development or enrichment of curriculum for improving and increasing the number of health professionals trained to give service to neurological and sensory diseases patients, and for 10 new refresher and supplementary training projects.

COMMUNITY SERVICES

In 1963, 41 grants were made for the extension and improvement of community services or for pilot demonstrations and special studies. In 1964, approximately 55 projects will be supported with continuing emphasis on vision and hearing conservation, mental retardation, and epilepsy.

Community service and demonstration grants included projects such as the following: Georgetown University is demonstrating a unified approach in mental retardation in prenatal, perinatal, and postnatal history and followup for an average of 3,000 infants annually; University of Iowa studies are comparing the laboratory techniques for early detection of phenylketonuria (PKU) ; and the University of Michigan is conducting a clinical analysis of the influence of amino acids on the central nervous system manifestations of PKU. A demonstration project in Michigan is providing comprehensive evaluation and treatment of children with behavior or learning problems. Numerous cases among these children have been discovered in which there are subtle neurological impairments. This project is working closely with the school system to develop detection procedures and to integrate these children back into the regular school program. A demonstration project has been supported in Texas to apply and evaluate orthoptic-pleoptic procedures and devices in a large university hospital. Orthoptics and pleoptics are therapeutic techniques successfully demonstrated in Europe for restoring vision following functional loss in one eye (amblyopia).

In 1965, an increase of $250,000 is requested to demonstrate approximately seven additional comprehensive community programs and studies of early detection, diagnosis, referral, and treatment of neurological and sensory diseases.

(*c*) *Other chronically ill and aged*

Project grants are available to study, survey, demonstrate, and otherwise develop new ideas and methods for meeting the out-of-hospital needs of the chronically ill and aged.

During the first full year of operation, 143 new applications for support were received from a wide range of national and local voluntary agencies, State and local health agencies, hospitals, universities, and colleges. Sixty-eight first-year awards were approved and with the 40 approved continuations, a total of 108 projects were supported in 30 States and Puerto Rico.

Although this program authorized by Public Law 395 is relatively new, it has fostered among voluntary and official health agencies the development of many new ideas and techniques for improving community programs for care of the chronically ill and aged.

Homemaker services are community services employing personnel to furnish home help to convalescent, aged, or chronically ill persons. For many years, such programs under health agency direction were practically nonexistent. Where they were available, there was too often a lack of coordination with other agencies in promoting and utilizing these services to enable a patient to be cared for in his own home rather than in an overcrowded hospital or nursing home. One of the 108 projects supported in 1963, with the Visiting Nurse Association of Birmingham, Ala., is demonstrating the feasibility of a communitywide homemaker program in one entire county. This is the first homemaker service program in the State of Alabama and is designed to study, among other things, the contribution of a homemaker service in reducing or postponing hospitalization of chronically ill and aged patients and to identify areas of health services needed but not now available in the community. Sources of referral for homemaker services include private physicians, the Visiting Nurse Association, the local chapter of the American Cancer Society, hospitals, and the Jefferson County Health Department. Fees for services are based upon ability to pay. The project now has 5 full-time and 2 part-time homemakers and during a 1-month period, they served 61 families. Indications are that the demand for services will continue to use all of the available resources.

The health problems of the aged are particularly difficult but of prime importance because of our progressively aging population, which is the most susceptible age group for chronic illnesses. A project with the Claremont General Hospital and the New Hampshire Council on Aging has established an outpatient diagnostic clinic for persons 60 years of age and over. The Claremont area has no organized local health department, and the project was formulated out of concern for the number of older persons in the area who could not otherwise receive proper medical attention.

The project's ultimate objective is to demonstrate the value of a community service for the aged which serves as a detection and prevention medium for conditions leading to debility and disability among the 5,000 oldsters in the service area. The clinic can also provide a valuable training facility in geriatric medicine for medical and paramedical personnel in the vicinity and for gathering casefinding material. Referrals to the clinic are made by the medical profession, State public health nurses, social service agencies, senior citizens groups, and relief-granting agencies. Followup services are being provided by both voluntary and official health agencies. As a pilot project the clinic will be of interest to other small communities seeking a low-cost method of providing better preventive medical care for their elderly populations and in demonstrating the beneficial results to the community and its citizens through the joint efforts of medical groups and other local organizations.

An exciting new project is being carried out with a Seattle Artificial Kidney Center, the Swedish Hospital in Seattle, Wash. About 3 years ago a system of hemodialysis was developed with Public Health Service participation at the University of Washington which made it possible to treat patients with chronic renal failure who would otherwise soon die of uremia. A feasibility study was conducted at the Swedish Hospital under a Hartford Foundation Grant, and the technique has recently been perfected to the point where a 5- to 20-year life span can be predicted for the formerly hopeless patient. The objectives of the present project are to establish a 10-bed, 30-patient community demonstration center. The Seattle center will also serve as a pilot project in reducing the costs of this form of treatment, training interested groups from other communities, and setting a pattern for the development of patient and community support. The center expects to be entirely supported by community resources by the end of its 3-year period and will provide guidance for future program developments.

Already there are a number of new and promising techniques being tried for delivering health services in the community and we can expect a steady increase in the number of applications for support. In 1964, we hope to fund approximately 30 new projects.

Training grants

1964 estimate	---------
1965 estimate	$100,000
Increase	+100,000

Research into the community aspects of chronic disease and chronic disease control often requires a multidisciplinary approach. The problems encountered are many faceted and include the fields of medicine, sociology, anthropology, epidemiology, psychology, statistics, and biology. Most current training programs are discipline oriented, and while the student may receive a thorough grounding in his specialty, he seldom receives training in other fields or exposure to the approach of other disciplines. The research training grant program of the Division will be aimed at developing training programs where students will receive broad training and experience covering several disciplines as well as their basic field. To this end, programs based in medical schools, schools of public health, graduate schools, and operating public health agencies such as State and local health departments, will be eligible for grant awards.

Examples of projects which have been proposed for consideration in this grant program include—

1. The establishment of a field training station in a rural community in conjunction with a university school of public health. Graduate students

from the university, in addition to appropriate course work, would be given practical on-the-job experience in the team approach to research into health problems of the community.

2. The establishment of a center for research training in gerontology. This project will be centered in the sociology department of a leading university. Students would be given appropriate course work and experience to prepare them for careers in research in the community problems of health of the aged.

An initial amount of $100,000 in 1965 is requested to support these types of new training opportunities for researchers interested in the control of chronic diseases. If progress is to be made in overcoming the shortage of competent, trained personnel in this vital and complex research area, a beginning must be made now in cooperation with institutions and organizations which share our concern about these problems.

Mental retardation planning grants

1964 estimate	$2, 200, 000
1965 estimate	
Decrease	−2, 200, 000

The basic purpose of the mental retardation planning grants will be to assist States in developing plans for comprehensive State and community action to combat mental retardation.

This new program was authorized by Public Law 88–156, approved October 24, 1963. These planning grants mark an important step in following through on the recommendation of the President's Panel on Mental Retardation relating to the planning, organization, and coordination of State and local services.

An appropriation of $2,200,000 is authorized for planning grants to States during fiscal years 1964 and 1965. The funds will remain available for obligation through June 30, 1965. While this amount will provide an average of $40,000 to each of the 55 jurisdictions eligible for a planning grant, the final award to each State will vary depending on need. Every State, however, will be given an opportunity to obtain an equitable share. Allocation will be made to the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, and American Samoa in addition to each of the 50 States.

The planning grants are designed to provide a mechanism whereby the States can consider policy issues vital to the development of a total action program against mental retardation in the fields of education, employment, rehabilitation, welfare, health, mental hygiene, and law.

The grants which are authorized may be used to pay not more than 75 percent of the cost of the activities involved and may be used to (1) determine what action is needed to combat mental retardation in the State and the resources available for this purpose; (2) develop public awareness of the mental retardation problem and of the need for combating it; (3) coordinate State and local activities relating to the various aspects of mental retardation and its prevention, treatment, or amelioration; and (4) plan other activities leading to comprehensive State and community action to combat mental retardation.

Research, training, and technical services

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Position	Amount	Position	Amount	Position	Amount
Personnel compensation and benefits	880	$7, 439, 900	903	$7, 820, 500	+23	+$380, 600
Other expenses		5, 990, 100		6, 064, 500		+74, 400
Total	880	13, 430, 000	903	13, 885, 000	+23	+455, 000

Summary of program

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Cancer control	189	$2,171,000	189	$2,205,700	------	+$34,700
Diabetes and arthritis control	75	1,139,400	79	1,197,900	+4	+58,500
Heart disease control	399	5,556,200	399	5,651,400	------	+95,200
Neurological and sensory disease control	93	1,709,500	97	1,795,700	+4	+86,200
Gerontology	30	916,000	39	1,001,700	+9	+85,700
Nursing home services	30	517,800	36	585,600	+6	+67,800
Care and preventive services	64	1,420,100	64	1,447,000	------	+26,900
Total	880	13,430,000	903	13,885,000	+23	+455,000

Cancer control

1964 estimate	$2,171,000
1965 estimate	2,205,700
Increase	+34,700

Optimum control of cancer requires that the best available practices in prevention, detection, diagnosis, treatment, and patient management be woven into the fabric of medical service throughout the Nation. The national cancer control effort must employ many disciplines and work through many channels.

In seeking to assist physicians already in practice, the Public Health Service is concentrating on the general practitioner, because he is the first physician to see almost 80 percent of the patients that are found with cancer in this country. Two cooperative projects with the American Academy of General Practice are currently underway in an effort to develop systems of medical communication.

It is becoming clear that the number and competence of the medical technologists who do the blood, tissue, and chemical work that is essential to cancer control are not keeping pace with the growth of the population and the growing use of laboratory procedure in medicine. In 1963 an Alabama study of measures to counteract this lag was completed. The Public Health Service in 1964 and 1965 will be cooperating with the College of American Pathologists, the American Society of Clinical Pathologists, and the American Society of Medical Technologists to develop a national program of assistance to medical technology.

The special problem of mammography training for diagnostic radiologists and their technicians will be receiving extraordinary attention in 1964–65. In 1963, under a Public Health Service contract the M. D. Anderson Hospital in Houston, Tex., and 24 cooperating institutions completed a test of mammography which is a new technique for diagnostic X-ray of the breast. The test proved that radiologist-technician teams can be taught by practice under instruction, that mammography is extremely valuable to clinicians managing cases of cancer and other diseases of the breast, and that the above-mentioned training is essential to successful performance of mammography.

Mammography has been publicized by national magazines as well as by the professional press. The procedure now stands in some danger of discreditation because the demand resulting from the above-mentioned publicity is inducing its trial by people without the essential training with unfortunately disappointing results.

In order to realize its advantages to control breast cancer as early as possible, the Public Health Service is working to set up a prototype training program in which qualified radiologists will receive instruction in training other radiologists in mammography.

In the flexible proctosigmoidoscope the cancer control staff sees another very promising cancer detection device which may greatly increase the early detection of cancer of the colon. Limitations of the present short, rigid, lens-less examining instrument which is very unpleasant for the patient have long been known to be an obstacle to improvement in detection of cancer of the colon. In 1963, the Public Health Service contracted for experimentation with a fiber-optical instrument which could extend the range of examination around bends in the colon, provide an optically sharp image and, by being relatively small in diameter, greatly reduce the discomfort of the patient. Fiber optics has been proven to be usable in this instrument. the development of which in 1964 is in the practical design stage. If the design problems are overcome and the extensive tests planned for grant-aided trial in 1965 are successful, this instrument will be the subject of an intensive training and promotion campaign beginning in 1966.

An increase of $34,700 is requested in 1965 for built-in changes.

Diabetes and arthritis control

1964 estimate	$1, 139, 400
1965 estimate	1, 197, 900
Increase	+58, 500

In order to achieve the proper perspective in portraying the nature of the task we face in assisting States and communities in improving out-of-hospital services to persons with diabetes and arthritis, some description of the significance of these problems is necessary.

Diabetes is the eighth leading cause of death and the third leading cause of blindness. An estimated 140,000 new cases are diagnosed each year with the total number of cases increasing from about 2 million in 1948 to nearly 3 million in 1963.

Arthritis, while it is not a killer, causes some degree of disability in nearly 12 million Americans. It is the leading single cause of diability in the United States. Since our knowledge of causation and of specific control methods is inadequate, a great deal of disillusionment exists both in the public and among professional health workers. This is evidenced by an estimated expenditure in the United States of $250 million annually on quack remedies and treatment.

In general, our approach to these disease problems is threefold: (1) To assist in the extension and improvement of services available to patients (2) to participate in the development and application of better education and training, and (3) to participate in research which will bridge the gap between the discovery of basic knowledge and its being put into practice.

DIABETES

A first step in the fight to control diabetes is the detection and bringing to diagnosis of the 1.5 million Americans who have diabetes and do not know it. In meeting this need, the program in 1963 provided consultation to State and local health agencies, provided direct assistance through special demonstration projects, loan of specialized equipment, and, where appropriate, assignment of personnel. Direct support through these means was provided to 38 programs in 28 States. In 1962, our reports show that nearly 320,000 persons received blood tests for diabetes in projects receiving direct support from the Public Health Service and preliminary reports for 1963 show an increase to nearly 500,000 persons screened. A particularly successful and promising program assisted by Public Health Service funds is being carried out by the local diabetes association in Cleveland, Ohio. Through the development of a new automatic device to test blood which can be used on a mobile basis, it is planned that the entire adult population of Cleveland—approximately 1 million persons—will be screened for diabetes. In Michigan, support over the past 3 years has helped in the development of a program now screening 116,000 persons annually.

While a great deal more interest is being shown in diabetes detection programs—as evidenced by nearly a doubling of reporting to the Public Health Service and inquiries and requests for assistance from areas where no activity has previously been carried out—much needs to be done to improve most State programs in the way of increased concentration on screening of high risk groups, use of improved and more definitive screening methods, particularly automated laboratory procedures, and better followup. During 1964 emphasis is being placed on these aspects of diabetes detection with special attention to improved utilization of formula grants for these activities and stimulation of project grant applications to develop, test, and evaluate new and improved community techniques. Two additional public health advisers have been trained and assigned to States during the early part of the fiscal year, and two more will complete their training and receive assignments by the end of the fiscal year.

The most successful diabetes control programs are found where there is a well-informed public, a well-trained and up-to-date professional community, and a well-educated patient. A well-educated patient is particularly important since so much of diabetes care is up to the patient himself. Every effort is being made to improve not only the quantity of educational material and techniques and promote their use, but also to develop new methods of approach. Development and evaluation of programed instruction material for both patient and professional education was carried out in 1963 and is being continued in 1964. Surveillance of the broad field of programed learning as it applies to our educational problem will be maintained in order to be aware of other possible approaches in addition to the one under development by this program. Programed learning, a newly developing concept of self-teaching, holds good promise of a method of relieving health professionals from a great deal of the basic, repetitious instruction necessary for good diabetic control. Production is now underway also for a new series of conventional patient teaching materials to replace existing outdated materials. The new series will be adapted to a variety of the latest audiovisual media and will be available this fiscal year. The development during 1963 and testing in 1964 of a food preference questionnaire will provide a helpful tool in assisting diet counselors to adapt special diets more in line with diabetes patients' preferences and usual menu.

An ongoing project of particular interest, in view of the emerging concept of prediabetes, is a study of women who show abnormal blood sugars during pregnancy. This long-range attempt to discover new approaches to the early detection of diabetes is already showing that women with abnormal blood sugar during the stress period of pregnancy develop diabetes at a higher rate than normal.

A new project beginning in 1964 in cooperation with the National Health Survey will attempt to document through reinterview of a sample of diabetics, gaps in their knowledge about the management of their condition, the source of such knowledge, to assess their attitudes and behavior with respect to the management of their disease and to define and describe the diabetic population.

ARTHRITIS

While a great deal of service can and undoubtedly is being provided to patients with arthritis in generalized out-of-hospital programs for chronically ill and aged persons throughout the country, there are certain problems specific to arthritics which require special attention if we are to attain optimum results from what we now know about prevention of disability from the various forms of this disease. For example, rheumatoid arthritis is subject to successive periods of acute inflammation and relative quiescence. Application of excessive exercise during an acute attack can cause serious joint damage, while during "quite periods" appropriate physical therapy exercise can be very beneficial in preventing permanent limitation of function. Special skills and precise knowledge of the disease is essential in prescribing and carrying out proper and beneficial programs of treatment which will prevent disability. Special training in arthritis is required and sometimes special facilities are needed to handle such problems properly.

A further means of improving service programs for arthritics, and one in which a good deal of effort is being expended in 1964, is the stimulation of closer coordination between official and voluntary agencies. Very productive programs can be carried out where good relationships exist. In Rhode Island, for example, the State health officer is a member of the medical and scientific committee of the State arthritis and rheumatism chapter. Mutually productive programs of service as well as research have resulted from this close working relationship. During 1964, a series of seminars will be supported to bring together officials from health organizations to consider ways of meeting the arthritis challenge on a cooperative basis.

Education of the public and professional health workers is most critical. During 1963 about 20 publications dealing with arthritis were acquired for distribution to State health departments as a means of familiarizing them with material available. As a positive approach to the problem of quackery, a manual on good nutrition for arthritics was prepared in 1963 in cooperation with the Arthritis and Rheumatism Foundation and the American Dietetic Association. "Strike Back at Athritis," exhibited at 19 professional meetings during 1963, continues to be promoted as a positive and specific approach to prevention of disability, with emphasis on making it known to paramedical groups.

Probably the greatest need in the area of education is that of professional education and special training. Programs to provide support for special clinical training in rheumatology are practically nonexistent. In addition to preparing specialists, of which there are currently fewer than 1,500 in this country, programs are needed to give general practitioners, internists, and other related specialists refresher training in the special problems of arthritis. Discussions are now underway with the American Rheumatism Association with a view to making plans as to how this need can be met and where support might be made available. It is hoped that a pilot project can be initiated to develop a prototype program of short term clinical training in 1964. An increase of four positions requested for 1965 will be used to expand this effort and develop special training programs for physical therapists, nurses, occupational therapists, and other appropriate paramedical groups.

The increase of $58,500 includes $33,000 and four positions for new program development as described above, and $25,500 for built-in changes, including the pro-rata share of the Bureau of State Services management fund.

Heart disease control

1964 estimate	$5, 556, 200
1965 estimate	5, 651, 400
Increase	+95, 200

Cardiovascular diseases are the most serious health problems in the United States. Fortunately, the outlook for reducing their effect has never been better. In 1964 the application of knowledge gained through research and the expanded use of case-finding and treatment techniques demonstrated in field tests in 1963, will do much to prevent or arrest some of these diseases, restoring tens of thousands of patients to useful life.

Demonstration projects and epidemiological and laboratory studies were primary activities in 1963. Some of these will continue as ongoing service programs. Others will continue to gather data. Some evaluation studies were conducted in the form of community service programs, since heart disease was detected in the process of gathering data for evaluating methods and techniques.

In 1963, in an effort to cut deaths from coronary heart disease by 25 percent, an intensive care unit for cases with suspected myocardial infarction was started at Presbyterian Hospital, Philadelphia. Here the most advanced medical instrumentation and nursing techniques for the patient are combined with opportunity for specialized training for physicians, nurses, and nutritionists. Early reports on the project at the Philadelphia Presbyterian Hospital have been hopeful. Additional intensive care units for myocardial infarction cases will be supported in 1964 in an effort to determine further the usefulness of these units. In 1964 a teaching team will be available to offer short-term courses in closed chest cardiac massage in various locations, and training courses for instructors will be instituted in all regions. The effect of exercise on the recovery of the post-coronary patient will be studied.

The survivors of stroke in this country number nearly 2 million. Ten community programs, involving approximately 100 patients each were initiated in 1963 as demonstrations of community care and rehabilitation of stroke victims. The program supported five educational programs or seminars for professional personnel, and cooperated in a National Stroke Conference in preparation for a National Stroke Congress in 1964. A pilot stroke prevention project was undertaken with Good Samaritan Hospital in Portland, Oreg. Here a clinic was equipped for early detection of those cases of asymptomatic cerebral vascular insufficiency which can be corrected medically or surgically before onset of stroke.

Stroke demonstration programs, involving the resources of the whole community in rehabilitation of the stroke patient, will be instituted in selected areas in 1964. "Up and Around," a booklet for stroke patients and their families, will be published this year. Stroke prevention projects, similar to the Oregon pilot project, are planned for three or four more States, where they will serve as a facility for physicians of a large surrounding area.

In 1964 a National Stroke Congress, a collaborative effort with the American Heart Association, the American Medical Association, and the Vocational Rehabilitation Administration, will be held before the clinical session of the AMA, involving up to 6,000 physicians.

A screening program for hypertension in Mercer County, W. Va., revealed that 9 percent of all participants had elevated blood pressures, one-half of which remained the same after six consecutive readings. For the first time a definite figure has been obtained as to the prevalence of hypertension in a free-living population and as to the need for consideration of hypertension as a public health problem. It has been found that coronary heart disease and hypertension rates, and the correlation between them, differ markedly in whites and nonwhites, and a study attempting to determine the sodium intake of the Negro population of Memphis has been undertaken.

In 1964 investigations of the etiology of hypertension and obesity will be made through development of mass screening programs for hypertension using blood pressure determinations as the major screening agent. This simple procedure has had a remarkably high record of casefinding.

Because sodium in drinking water can play an important role in the recurrence of congestive heart failure as well as in other conditions, a survey was undertaken of the sodium content of drinking water in about 3,000 communities across the country. Information from this survey will eventually be made available through the States to physicians for use in treating their patients on sodium-restricted diets.

To date, the program has supported the training of laboratory technicians from all 50 States and 4 territories in the fluorescent antibody technique, which can identify the precursor organism of rheumatic fever within 4 hours, allowing the prompt treatment which may prevent rheumatic fever. In-State training courses in 18 States and Puerto Rico have trained 340 laboratory technicians. The program hopes ultimately to see the development of a rheumatic fever vaccine. As a byproduct of laboratory services, a Connecticut group is now extending the fluorescent antibody techniques to perform the prerequisite typing of group A beta hemolytic streptococci. Although any of the 46 types of group A streptococci may lead to reheumatic fever, evidence suggests that a polyvalent vaccine might be developed against the more common types. While an effective vaccine is not imminent, applying fluorescent antibody techniques to typing streptococci is a step in this direction. Further training courses within the States are planned in this technique in 1964.

Portable heart sound-recording equipment has undergone preliminary mass field trials to determine its optimal use in detecting cases of congenital and rheumatic heart disease. To date 150,000 schoolchildren have taken part in 12 geographical locations.

To keep the number of unknown sufferers from congenital and rheumatic heart defects at a minimum, the program will continue to support efforts to develop screening and detection methods. Field studies of schoolchildren are continuing in nine test areas in 1964. Recent studies have indicated that a programed computer system can successfully separate normal from abnormal heart sounds. Work in developing automation of phonocardiographic tape processing will continue this year.

Because of the wide variety of innocent and organic murmurs occurring in the hearts of children, it is difficult for physicians other than pediatric-cardiologists to identify the various types of abnormal heart murmurs. An animated color film will soon be released which will aid the nonspecialist in distinguishing abnormal murmurs.

The most widely used diagnostic test in the treatment of heart disease is the electrocardiogram, some 35 million of which are taken each year in the United States alone. Routine interpretation costs millions of man-hours of cardiologists' time urgently needed for diagnosis and care of patients. During 1964, we anticipate that a system will be developed that will enable the physician to take an electrocardiogram in his own office, and within the working day, receive an automated recognition and analysis back from a central point. Clinical demonstrations will be conducted this year in cooperation with George Washington University. During each of the next 3 to 4 years over 10,000 electrocardiograms will be processed in this manner, and within 5 years the technique should be fully operational. It is highly probable that in the foreseeable future physicians will have access to rapid and economical electrocardiogram services now available only in medical centers.

Closely allied to the recognition and analysis provided by automated interpretations is the need for standard criteria being accepted by the medical profession. Plans are under consideration in 1964 for a conference of experts to establish guidelines for this criteria.

The standardization and reference laboratory of the heart disease control program in Atlanta, Ga., has established a national cholesterol standardization program to help participating laboratories improve and standardize their cholesterol determinations.

Efforts will continue to develop a "cadre of health personnel" working in health departments throughout the country to apply knowledge in heart disease control. Approximately 145 field assignees will be concerned with identifying the cardiovascular disease problems which most concern the communities to which they are assigned and working toward solution of these problems through community-accepted programs. Short-term assignments at health departments, universities, and field stations will be given medical students in order to acquaint them with and interest them in preventive medicine, public health methods, and the Public Health Service. During 1964 special assistance will be given to the field assignees in implementing current knowledge in stroke, intensive care for the postmyocardial infarction patient, and utilization of electronic methods to aid physicians in screening and diagnosis.

An increase of $95,200 is requested in 1965 for built-in changes.

Neurological and sensory disease control

1964 estimate	$1, 709, 500
1965 estimate	1, 795, 700
Increase	+86, 200

Neurological and sensory diseases affect an estimated 20 million people in the United States. These disorders range from speech, vision, and convulsive disorders to the multifaceted problems of the mentally retarded and the chronic neurologically disabled. Recent research has discovered new approaches to the prevention, treatment, and rehabilitation of many of these disabilities which could greatly reduce the amount of suffering caused by these conditions. The problem nationally is that of properly using this knowledge by developing and mobilizing adequate community resources for making preventive, detection, diagnostic, and treatment services accessible to as many of these people as possible. This program is approaching the problem by: (1) Accumulating and refining applicable research and technical knowledge; (2) supporting improved and expanded community services; and (3) professional, technical, and public informational activities.

Emphasis on the problems associated with epilepsy is being increased during 1964. During 1965, principal efforts will continue to be devoted to the areas of mental retardation, epilepsy, vision, and communicative disorders, along with exploratory program development in other neurological disorders such as multiple sclerosis.

Since the inception of the neurological and sensory disease program as a major control effort in 1962, a primary goal has been the stimulation of comprehensive development, grant-aided planning projects in every State. By the end of 1965, approximately 30 of the 50 States will have participated in surveying their needs and capabilities in carrying out a full-scale neurological and sensory disease program. This knowledge will be of great assistance in guiding our planning and in channeling State efforts into the most productive areas.

Since early detection is the key to control of many neurological and sensory diseases, major effort will be made to study and develop methods for improving the detection of neurological and sensory diseases at the earliest practical stage, to define higher risk groups, and to develop further etiologic knowledge concerning such conditions. Glaucoma, amblyopia, epilepsy, and mental retardation are diseases in which improved techniques for early detection are being sought.

In recent years, the program has successfully created nationwide awareness that glaucoma, a leading cause of blindness, can be controlled or arrested if detected in its initial stages. Widespread public and professional acceptance of community detection programs for glaucoma has been a major result. In conjunction with the National Society for the Prevention of Blindness, such detection programs have been stimulated in 57 clinics in 15 States. A special study currently underway in San Francisco will determine the validity of the McKay-Marg electric tonometer as an effective screening device for detecting glaucoma.

Blindness resulting from cataracts is also amenable to preventive efforts through surgery. A motivational study conducted by the program in 1963 in Philadelphia revealed certain sociopsychological factors common in many persons who refuse surgery for this condition. The results of this study will be used for planning professional education activities to overcome the reluctance of these persons to seek surgical assistance.

Metabolic abnormalities and chromosomal aberrations in the newborn child are known to be responsible for some forms of mental retardation. Early detection of clinically unrecognizable disorders by laboratory tests is the first step to prevention and minimalization of subsequent retardation. In preparation for a collaborative project, a pilot study is being initiated with several major medical centers to evaluate the reliability and reproducibility of various biochemical tests for detecting metabolic errors at the earliest possible age.

Surveys and exploratory studies are also being undertaken to develop a realistic baseline for defining and classifying epilepsy. This will provide means for assessing the extent of the problems and needs for meeting them.

Children often have visual or communication problems or subtle neurological disorders which are not detected until after they enter school, when treatment may be more difficult. A collaborative project to develop a neurosensory diagnostic screening examination to detect neurological and sensory deficits such as amblyopia and hearing loss in preschool children is now being planned with several health agencies and medical schools for initiation in 1965.

An increase of four positions and $34,000 is requested in 1965 to initiate and expand early detection activities with particular emphasis on mental retardation.

Conferences in vision and hearing conservation for health agency personnel and practicing physicians will continue to be conducted at the State level to emphasize the importance of early detection, diagnosis, and treatment of these disorders. Organized vision conservation programs, similar to our efforts in Florida, Oregon, and Utah, will be stimulated in five additional States during 1965. These programs will include screening for glaucoma, incorporation of tonometry into routine physical examination of adults, and introduction of standardized preschool tests for detection of visual defects leading to amblyopia and other visual disorders of childhood.

One problem in bringing community resources to bear on neurological and sensory diseases is the lack of understanding among the general public and many physicians about the scope and magnitude of these diseases. In order to improve community understanding and to bring the newest and most easily applied detection and treatment techniques to practicing physicians, this program conducts both lay and technical informational activities.

In 1964, exhibits, films, filmstrips, and other informational materials dealing with detection techniques and other technical matters are being developed. These will be distributed to appropriate agencies and professional personnel in promoting community service programs in epilepsy, glaucoma screening, mental retardation, and hearing conservation. New exhibits are being developed in detection and treatment of hearing impairments and metabolic disorders which may lead to retardation.

The increase of $86,200 includes $34,000 and four positions for new program development as described above, and $52,200 for built-in changes including the pro rata share of the Bureau of State Services management fund.

Gerontology

1964 estimate	$916,000
1965 estimate	1,001,700
Increase	+85,700

The aged population of the United States today could fill the cities of Philadelphia, Chicago, Detroit, and New York. By 1970, cities the size of Los Angeles and Boston would be needed to house the increase.

Of the noninstitutionalized population alone, 12 million are afflicted with such chronic conditions as heart diseases, cancer, diabetes, arthritis, and impairments to sight and hearing. Nearly half of these persons, the equivalent of the population of Chicago and Philadelphia, cannot carry on any major activity or are seriously limited in the amount or extent of activity they can undertake.

In addition to the fact that the incidence of these diseases is much higher in the older population, significant qualitative differences exist in the health profile of older persons as compared with that of the younger population. From a physical standpoint, the elderly have lowered resources, they more frequency suffer from a multiplicity of ailments and yet have fewer overt symptoms, and they respond more slowly and to a lesser degree to therapy.

From a socioeconomic point of view, the lowered income of the elderly affects the amount and kind of health services they receive, and is undoubtedly a reason that a greater proportion of this age group lives in housing that is undesirable from a health standpoint. The fact that the elderly frequently do not have persons at home to care for them during periods of illness creates a special problem. Psychologically, the elderly do not respond in the same manner as younger persons to community health promotion programs, and they may not understand the need for or may lack the motivation to seek or follow through with rehabilitation or restorative services.

Although the categorical and general health services programs of the Public Health Service are designed to meet the needs of the total population, including the aging and aged, the physiological, psychological, and socioeconomic factors inherent in the health profile of the older person call for specially trained people to meet the special needs of the aging and aged. Doctors, community welfare experts, social workers, dentists, nurses, and representatives of other health and health-related disciplines who are interested in the health of the aging and aged have stated time and again that the problems of the aging population will be met adequately only when the health disciplines have been oriented and trained to meet these problems.

Consideration of these factors in mid-1962 led a special Bureau of State Services task force to recommend the establishment of an operating program devoted exclusively to meeting the health problems of the aged. On November 27, 1962, the gerontology program was established in the Division of Chronic Diseases and given three specific areas of responsibility: Education of health personnel and the general public in the health problems and health needs of the aged; developing and encouraging the establishment of better health services for the aged; and continuous research in the health problems of the aged.

Shortly after its creation, two meetings of nationally known experts in the health problems of the aging and aged were called. These doctors, nurses, dentists, psychologists, and sociologists, teachers and practitioners pointed out the need for immediate orientation of practicing doctors, nurses, social workers and other health professionals in the health problems of the aged; at the same time, they emphasized the necessity for long-term education of all kinds of specialists who would be competent to teach and do research as well as give direct service.

Immediate negotiations were undertaken with the Gerontological Society, whose membership includes all the health and health related professions, to prepare a training course for practicing health professionals in the problems of the aged. Through the use of this curriculum, psychologists, for example, will be informed about the medical and nursing aspects of the care of the aged and doctors will learn of the sociological basis of many of the problems which beset the aged.

Discussions have been held with several universities to examine the possibility of training two kinds of persons to meet the problems of the years ahead. On the one hand, schools of public health have been contacted about developing courses in gerontology as a specialization within their regular curriculum leading to the master's degree in public health. Persons trained in this manner will meet the needs of State and community health departments, voluntary organizations, and the Public Health Service itself for service-oriented personnel to go directly into public health activities concerned with aging. On the other hand, problems of the aged cannot be met without a group of professionals in various disciplines who are capable of teaching and doing the necessary research.

A motion picture, begun in 1963, will be promoted upon completion in 1964. This picture, entitled "Running Scared," will graphically show the aging male why he should schedule and undergo periodic health examinations. First steps have also been taken to reach community leaders with an educational television program which will be a historical presentation of the health care of the aged. Health care in the past will be illustrated and several views of currently operating health service projects will demonstrate the range of services now available to older persons. Included will be such projects as an information and referral service provided in conjunction with a community hospital care center for the aged and provision of health service through senior citizens' centers, bringing in the Government's role in community health services for the aged.

In 1965, a concerted effort will be made to begin orientation of the practicing local physician to reliable health care and preventive techniques for older people through use of the curriculum now being developed.

Ideally suited centers for execution of this program are the 900 community hospitals throughout the Nation which have existing training facilities for physicians; these institutions must be reached, agreements negotiated, materials arranged for, and teaching personnel consulted. At the same time, State and local medical societies, health departments, and a variety of other public and voluntary organizations must be reached in order to explain the program and elicit support in encouraging the physician to participate in the program. Of all the program activities, this has first priority.

The increase of nine positions and $73,900 requested for 1965 will be necessary to initiate this campaign.

State and Federal agencies and all manner of voluntary agencies and academic institutions have planned, developed, or operated health services for the aged. A great number of individuals and groups have studied problems associated with aging over the past 30 years. In order to develop a sound operating program to meet the needs of the aged, a basic requirement is initial assessment of what is being or has been done in the way of research and services.

Research and factfinding activities will be advanced in a number of ways in 1964. A contract proposal is being developed with a national health information organization which will analyze completed research projects in terms of the problems investigated, the methodology employed, the research setting, and the success or failure of the project. The analysis will be disseminated on a national basis and will serve several purposes: It will encourage interest in gerontological research; it will provide investigators with information about desirable or questionable approaches and methods; and it will give investigators an indication of what has been done well and which areas need reexamination. Planning has been started for a symposium on research activities in conjunction with the Midwest Council for Social Research in Aging, which represents 20 universities. For purposes of planning and evaluating care and preventive methods, the program will identify a stable group of well older persons and develop a project for the longitudinal study of the group in terms of the onset of illness, disease, and disability. Negotiations have begun on a pilot project to determine, systematically and completely, what health facilities and services are available to the aged population of one State. Success in this State will be the basis for beginning like projects in two or three additional States.

The problems of the aged and aging cannot wait until specialists have been trained, until the ideal types of services have been developed, or until all past research has been sifted and analyzed. Community health services exist which are serving current needs and providing necessary information. This program is now directly supporting a number of demonstration projects. An outstanding service project is in Baltimore, Md., which began as a care service located in a community hospital, and has developed into a coordinated program including ambulatory health care, home nursing care, information and referral, and social work services. In Providence, R.I., a combination public health nursing and social work service for housing center residents is highly successful.

The increase of $85,700 includes $73,900 and nine positions for new program development as described above, and $11,800 for built-in changes including the pro rata share of the Bureau of State Services management fund.

Nursing home services

1964 estimate	$517, 800
1965 estimate	585, 600
Increase	+67, 800

Established in November 1962, the mission of this program is to raise the standards of care available to over 500,000 patients in the Nation's 23,000 nursing homes and related facilities.

One of the most significant undertakings begun late in 1963 and continuing in 1964 is for a pilot or prototype project in the full staffing of a State or local health agency with professional personnel needed for consultation with local nursing homes. A physician, public health nurse, medical social worker, physical therapist, nutritionist, and other professional disciplines will work as a team in demonstrating better patient care, and, simultaneously, stimulating community resources to provide improved care on a continuing basis. The project will test the hypothesis that staffing State or local health agencies with the complete range of professional competence appropriate to nursing-home operations can in itself result in raising care standards and be of measurable benefit to patients.

The second major development in 1963 was a carefully selected series of training activities in vital professional areas. With program consultation, the New York City Department of Hospitals is developing a proposal to produce ten 16-millimeter films for training nursing aids in nursing homes, an expansion of a successful television-teaching project in that city.

Restoring an individual to self-care, or to a greater degree of self-care, should be a primary concern in nursing homes. However, many kinds of restorative services are not generally available due to a lack of physical therapists or other skilled personnel on the nursing home staff and due to the general shortage of physical therapists in the community. To provide an accurate assessment of the availability of physical therapists and point up possible ways to alleviate this situation, a contract was developed in 1963 with the American Physical Therapy Association for surveying its 10,000 members to determine their present involvement in nursing home work and their availability for such professional activity. This project will provide a detailed nationwide picture of manpower resources needed for the key function of restoring nursing home patients to maximum attainable self-reliance, which is an essential component of improved standards of care services.

A nursing home cost study to determine the economic base of patient care has been one of the most conspicuous needs in the nursing-home industry for many years. When the President's Council on Aging assigned the task of conducting such a study to this program, it was determined that a pilot study to investigate the problems of collecting such data was a necessary first step. Based on a standard chart of accounts developed by the Public Health Service, pretests will be conducted to collect total cost and staffing data in 200 nursing homes and for infirmary as distinguished from domiciliary sections of 20 homes for the aged. Although a number of workshops were conducted during the past several years to introduce this standard accounting procedure to nursing home operators, it is utilized by relatively few. To obtain uniform accounting data, the Public Health Service chart of accounts is being instituted in the homes included in the preliminary study. This step is preparatory to a survey of a selected sample from which national estimates of cost can be derived. A preliminary report to the President's Council on Aging is expected in April 1964 and the completed survey about a year later.

During 1962 and 1963, 11 affiliation agreements were initiated by the program, 7 of which have been continued on a self-supporting basis. The formula calls for an agreement between a general hospital and a nursing home, whereby the hospital, for nominal consultation fees, makes members of its professional staff available to aid the nursing home administrator. The hospital physical therapist, nutritionist, medical records librarian, accountant, maintenance engineer, and other staff members provide the nursing home with a stipulated number of hours of consultation each month, supplying skills that the nursing home cannot afford on a full-time basis. In return the hospital is assured of suitable beds for long-term patients whose transfer from the hospital to a nursing home is indicated.

These informal cooperative agreements have created a great deal of interest at State and local levels, and a trial project involving hospitals and nursing homes in an entire State or a portion of a State will be developed during 1964 to further test the feasibility of such a plan. In 1965 the plan will be encouraged in several States in various parts of the country as a part of grant-supported activities.

It is clear that the major deterrent to advancing State and local agencies' programs for raising the level of care in nursing homes is the lack of trained personnel available in these agencies. In 1965, it is proposed to make a small number of selective assignments of health professions personnel to work with State and local health departments to help in overcoming their present handicap. In this manner, the agencies responsible at the local level for nursing home activities will be assisted in moving toward self-supporting and professional self-reliance in the area of nursing home care. This direct assignment approach is viewed as one of the most significant and immediate steps which can be taken to raise the standards of patient care in nursing homes.

The increase of $67,800 includes $55,000 and six positions for new program development as described above, and $12,800 for built-in changes including the pro rata share of the Bureau of State Services management fund.

Care and preventive services

1964 estimate	$1,420,000
1965 estimate	1,447,000
Increase	+26,900

CARE SERVICES

Our experience of the last few years has shown that community programs for nursing care of the sick at home, homemaker services, coordinated home care, and information and referral activities are effective and practical current solutions to easing the financial and psychological burdens which accompany chronic illness and disability.

Prior to the passage of the Community Health Services and Facilities Act, these out-of-hospital activities were either nonexistent or insufficient to meet community needs, and primarily directed to patients and families in welfare situations. Home health services developed as a result of the act are community resources that assist in keeping those persons who can be adequately cared for at home out of an expensive hospital situation or in moving a person from the hospital to his home as soon as practical. In 1958, a survey of homemaker service programs showed that 80 percent of the families receiving services had a sick or aged person in the home, demonstrating to the Public Health Service the pressing need for health-oriented homemaker programs. Furthermore, it has been found that in general hospitals, 20 to 30 percent of those patients who have remained for more than 30 days are there because of social and not medical reasons. They remain either because there is no family member to assume the responsibility for their care in the home or because supportive health services to the patient are not available in the community.

Beginning in 1962, 36 demonstrations with nonprofit organizations and official health agencies have been supported directly. Of these, 15 were in the area of nursing care of the sick-at-home, 5 homemaker programs, 5 coördinated home care, 7 programs of coordination including central information, referral and counseling services, and 4 multiple-service programs.

New ideas and approaches to providing out-of-hospital services to the chronically ill and aged are being developed and demonstrated through project grants authorized by the Community Health Services and Facilities Act. In the home health area, there are 43 programs now underway which are testing promising new techniques for delivering health services in the community.

Substantial progress is also being made in expanding and improving home health care programs in this country. In the area of homemaker service programs alone, there are today approximately 225 programs serving over 5,700 families a week through the employment of 2,900 homemakers.

Continuing efforts to encourage and promote community health care programs are carried on in a number of different ways. For example, a workshop on homemaker service brought together representatives from 35 programs throughout the United States. Discussion focused on problem areas, current progress and future programing. Through such give-and-take sessions, a better understanding of problems and concern at the community level can be gained.

In 1964, a care service guidebook is being developed which will provide basic information on home health programs, principles of care, program ideas, definitions, and other helpful data for assisting program planning at the State and local level. The guidebook will be published in 1965.

The increasing importance of sound administration in home health programs creates a demand for factual data on the actual cost of providing service. In 1964, a system will be devised for determining the cost of various types of home care programs. The availability of this information will enable agencies and organizations to identify variations in the cost of providing services and validate fees for service.

PREVENTIVE SERVICES

One of the major problems in chronic disease control is that the concept of prevention and the recognition of preventive measures is not widely enough known and accepted in the public health field and in clinical medicine. Through an increased awareness of these concepts and through the development of improved preventive health techniques, much of the disability and dependency caused by chronic diseases can be minimized or prevented. Periodic health examinations, multiple-disease screening, restorative services, and functional fitness are program areas which offer ways of preventing the onset of disease and disability.

In 1964 and 1965, several approaches are being made to disseminating information and knowledge about disease detection and restoration of individuals to a greater degree of self-care. A film to be entitled "The Challenge of Disability" will be produced for use by medical groups. It will identify the features of disability and suggest measures which may be useful to prevent and control it. A forthcoming booklet of the therapeutic uses of heat and cold will provide a valuable source of information on simple techniques that are not now being applied in many situations where they could be of considerable benefit. A comprehensive catalog of audiovisual teaching materials relating to restorative services and functional management of the chronically ill and aged is being developed for distribution in 1964 to all agencies which use motion picture films and audiovisual materials for teaching. An educational film on the role of the nurse in providing restorative services is now being distributed and shown in schools of nursing, local and State health departments, acute and long-term hospitals, and in high schools as a nurse recruitment film.

Publication of "Step Into Action," a pamphlet to assist the lower extremity amputee patient to reestablish quickly his ability to walk again, has provided a valuable program feature similar to the very successful pamphlets "Strike Back at Stroke" and "Strike Back at Arthritis." Projects involving the use of "Step Into Action" by amputee centers and other hospitals are being planned.

A conference to examine needs and potentials for research relating to the prevention and control of disability, which involved 20 outstanding authorities in restorative medicine, research, and public health, was held in Houston, Tex., in October 1963. A report on this conference is being prepared at the Texas Institute for Rehabilitation and Research and will be available during 1964. It is anticipated that the impact made by this conference will be reflected for the next several years in research undertaken at all levels.

Through a contract with the Sister Kenny Rehabilitation Institute, a program of intensive training in rehabilitation nursing techniques is being conducted. The purpose is to improve the total care of the chronically ill and prevent disability by conveying newly developed skills in rehabilitation to the professional nurse. Approximately 100 professional nurses from public health agencies, hospitals, and nursing homes were trained during 1963.

Another phase of this project is for designing and pretesting a series of materials on rehabilitation nursing care. One publication, "Self Care and Home Making for the Hemiplegic," is now available for distribution and additional materials are being developed in 1964. The final facet of this contract involves training professional nurse instructors to conduct short-term courses in rehabilitation nursing care. In 1964, an evaluation will be conducted of the impact made by this type of teacher training, the methods of applying the material, and a study of its usefulness in the various institutions to which the trainees returned.

An increase of $26,900 is requested in 1965 for built-in changes.

New positions requested, fiscal year 1965

	Grade	Annual salary
2 public health program specialists	GS-13	$23,462
7 public health program specialists	GS-12	69,888
3 public health program specialists	GS-11	25,272
1 clerical assistant	GS-5	4,701
4 clerical assistants	GS-4	16,888
Commissioned officers:		
2 senior grade		16,440
3 full grade		28,260
1 senior assistant grade		7,740
Total new positions 23		192,651

COMMUNICABLE DISEASE ACTIVITIES

WITNESSES

DR. JAMES L. GODDARD, CHIEF, COMMUNICABLE DISEASE CENTER
DR. AARON W. CHRISTENSEN, DEPUTY CHIEF, BUREAU OF STATE SERVICES
LELAND W. SMITH, FINANCIAL MANAGEMENT OFFICER, COMMUNICABLE DISEASE CENTER
JOHN W. HAMBLETON, FINANCIAL MANAGEMENT OFFICER FOR COMMUNITY HEALTH PROGRAMS
DR. LUTHER L. TERRY, SURGEON GENERAL
HARRY L. DORAN, CHIEF FINANCE OFFICER
JAMES F. KELLY, DEPARTMENT BUDGET OFFICER

Object classification

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
11 Personnel compensation:			
Permanent positions	6,914	8,503	10,240
Positions other than permanent	83	1,131	649
Other personnel compensation	73	130	102
Total personnel compensation	7,071	9,764	10,992
12 Personnel benefits	869	1,049	1,172
21 Travel and transportation of persons	507	795	940
22 Transportation of things	99	323	505
23 Rent, communications, and utilities	514	571	654
24 Printing and reproduction	74	120	167
25 Other services	252	2,279	3,432
Services of other agencies		2	2
Payment to—			
Bureau of State Services management fund	242	507	540
National Institutes of Health management fund	21	22	22
26 Supplies and materials	620	1,438	1,844
31 Equipment	587	981	628
41 Grants, subsidies, and contributions	1,783	19,172	9,121
Subtotal	12,639	37,023	30,019
Deduct quarters and subsistence charges	1	2	2
Total obligations	12,638	37,021	30,017

Personnel summary

	1963 actual	1964 estimate	1965 estimate
Total number of permanent positions	1,285	1,612	1,697
Full-time equivalent of other positions	13	175	95
Average number of all employees	1,104	1,467	1,589
Employees in permanent positions, end of year	1,151	1,419	1,504
Employees in other positions, end of year	101	216	132
Average GS grade	7.0	7.0	7.2
Average GS salary	$6,616	$6,736	$6,730

Program and financing

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
Program by activities:			
1. Grants:			
(*a*) Research	1,539	1,712	1,760
(*b*) Community immunization	244	18,661	8,000
2. Research, training, and technical services	11,165	13,582	14,368
3. *Aedes aegypti* eradication		3,000	5,889
Total program costs, funded [1]	12,948	36,955	30,017
Change in selected resources [2]	−310	66	
Total obligations	12,638	37,021	30,107
Financing:			
Comparative transfers from other accounts	−2,217	−1	
Unobligated balance brought forward		−8,456	
Unobligated balance carried forward	8,456		
Unobligated balance lapsing	15		
New obligational authority	18,892	28,564	30,017
New obligational authority:			
Appropriation	18,892	28,405	30,017
Transferred to—			
"Operating expenses, Public Buildings Service," General Services Administration (77 Stat. 436)		−21	
"Salaries and expenses, Office of the Surgeon General" (42 U.S.C. 226)		−4	
Appropriation (adjusted)	18,892	28,380	30.017
Proposed transfer from "National Heart Institute" due to Uniformed Services Pay Act of 1963		184	

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[1] Includes capital outlay as follows: 1963, $525,000; 1964, $1,455,000; 1965, $1,448,000.

[2] Selected resources as of June 30 are as follows: Unpaid undelivered orders, 1962, $760,000 (1963 adjustments, −$6,000); 1963, $444,000; 1964, $510,000; 1965, $510,000.

Mr. FOGARTY. Dr. Goddard, we are very pleased to have you here. A few minutes ago, it was stated that the project for a driving simulator you suggested a few years ago is getting off the ground and it looks like it is going to be built.

Dr. GODDARD. I am happy to hear that. It is sometimes a long time between the conception and the fruition of ideas.

Mr. FOGARTY. That is right. I thought you did a good job the first time that you testified here on that project.

Go ahead with your statement.

GENERAL STATEMENT

Dr. GODDARD. The past year has been a year of contrasts—an alltime low for polio, a 24-year high for botulism; a reappearance of dengue in Puerto Rico, and a continuation of problems with hepatitis. The activities of the Communicable Disease Center have emphasized assistance to States in controlling infectious diseases by three means: direct assistance, improved communications, and developmental research.

DIRECT ASSISTANCE

Direct assistance might be one man investigating a suspected case of smallpox or a major effort involving 321 man-days in the field and laboratory examination of 5,500 eggs to unravel the problem of *Sal-*

monella derby. To maintain the ability to respond to the needs of the Nation, more epidemiologists must be trained to provide the estimated national need of 1,000 epidemiologists. As another method of disease control, the CDC has added a small stockpile of botulism antitoxin and a new drug for smallpox prophylaxis to its existing stockpile of polio vaccine.

The laboratory is increasingly important in the control of disease. Erroneous laboratory results influence not only the welfare of the individual, but also the health of a community. The CDC intensified laboratory improvement program will, by next year, have reviewed the laboratories of most States and laid out plans for implementation of recommendations.

A new means of assisting local areas in the control of communicable diseases has been available to the CDC this year—the Vaccination Assistance Act. The 36 (now 41) projects currently operative have as their primary objective the establishment and maintenance of high levels of immunity against polio, whooping cough, diphtheria, and tetanus. The late start of this program has caused the primary emphasis to be placed on identification and immunization of the hard-to-reach groups.

A second new area of assistance in controlling potential outbreaks of disease is the *Aedes aegypti* program instituted this year. Primary activity this year is in 29 metropolitan areas in Puerto Rico, Virgin Islands, Florida, and Texas. With the increased funds for 1965, operations will be increased in these areas, the program expanded into adjacent counties, and surveys begun in the remaining States in the receptive area.

IMPROVING COMMUNICATIONS

The CDC has approached the problem of improving communications on several fronts. In the international exchange of audio-visuals, we are working closely with teachers and students in two oversea areas to gear those visuals already produced to their particular needs. Major efforts are being put into cataloging, to improve the utilization of existing materials, not only in this country, but internationally.

The Center has developed materials to place in the hands of medical school teachers so that they have up-to-date information film clips and slides of diseases infrequently encountered in teaching hospitals—smallpox, typhoid, encephalitis.

RESEARCH GRANT PROGRAM

The research grant program of the CDC is supporting research projects concerned with developing better disease control techniques.

Research at CDC has a similar objective. For example, anticipating the possible outbreak of influenza on the west coast this year, two study areas have been established to evaluate new vaccines in preventing influenza; the fluorescent antibody has been adapted to smallpox and it is expected that a field evaluation will soon be carried out in an epidemic area; the jet-injector gun is being evaluated for rapid and effective immunization of large numbers of people against smallpox. Finally, a reference laboratory has been established to screen candidate strains of the hepatitis virus; to screen for viruses materials provided from field investigations; and to adapt biochemical methods to tissue cultures for better identification of potential causes of hepatitis.

In summary, the increases, in the total budget of $30,017,000, will allow for the training of more epidemiologists, better communications through audiovisuals, expansion of the *Aedes aegypti* program, and greater attention to hepatitis.

COMMUNITY IMMUNIZATION PROGRAM

Mr. FOGARTY. The appropriation for 1964 is $28,405,000 and the request for 1965 is $30,017,000, an increase of $1,612,000 and 85 positions. There actually, will be a big drop in your obligations due to the community immunization program. How much, in total, has been appropriated for that?

Dr. GODDARD. The total funds appropriated for that are slightly in excess of $18 million, sir; a little over $8 million was made available May 14.

Mr. SMITH. $8,830,000, May 17.

Dr. GODDARD. May 17, 1963.

Mr. FOGARTY. $18,900,00.

Dr. GODDARD. Almost $19 million.

Mr. FOGARTY. Was this mostly for polio?

Dr. GODDARD. No, sir. It was, actually, for the four diseases. I would have to say we were concerned as much about the other three as we were about poliomyelitis.

In practice, the voluntary effort on the part of medical societies, in cooperation with health departments and other community groups, has placed great emphasis on the immunization of persons susceptible to poliomyelitis on a national basis. This has run far ahead of our expectations.

Mr. FOGARTY. What is a good percentage in a State?

Dr. GODDARD. We consider anything in excess of 90 percent in a given area as being a good response.

Mr. FOGARTY. For the small State of Rhode Island, what would you consider a good percentage there?

Dr. GODDARD. 85 to 90 percent.

Mr. FOGARTY. It is not that high.

Dr. GODDARD. Of the susceptible population.

You see, we exclude from consideration those persons past 30 as far as immunization with the oral polio vaccine. Our concern is that we are not getting the same degree of response on a voluntary basis for the other three diseases which are causing more of a problem than poliomyelitis. This is going to require hard work on the part of our State and local health departments to put these programs in operation.

There are 4 million children born each year. The backbone of this program is to set up long-term means for reaching these 4 million children each year before they have to enter school. We hope to reach them by the age of 1 and immunize them against these diseases.

Mr. FOGARTY. It is not possible within the first 3 or 4 days of life?

Dr. GODDARD. No, sir. There is antibody protection derived from the mother that interferes with the production of antibodies on the part of the infant, and so most pediatricians prefer to wait until at least the infant is 3 months old before beginning any attempt to immunization.

Dr. Terry. However, we do have some studies going on in this field in which we are studying the immune response of these babies who are actually given the vaccine before they leave the hospital, after birth, within the first few days. As Dr. Goddard has indicated, it doesn't look, at least at this stage, particularly promising, but we hope to learn more about the immune response, and whether other mechanisms or other methods could be used to immunize these children effectively at that stage, because this is one with a large percentage of the babies of this country being born in hospitals—this is one time where you get a shot so to speak, at more than—well, above 90 percent of our population. If you could do it effectively then, it would be a great thing, but there are problems.

SUCCESS OF POLIO IMMUNIZATION PROGRAM

I think we might mention, too, Mr. Fogarty, that for the first time since we began selecting national statistics on the incidence, in the reporting of poliomyelitis, for 2 weeks during the month of January of this year, the first weeks that we have had since reporting began, there were no cases of paralytic polio reported in the United States. This is to give you an example of how well this disease is beginning to get under control.

In addition, in comparison to the 50,000 or so cases we were having back in the early 1950's, around that time, per year, last year——

Dr. Terry. We had fewer than 400 paralytic cases.

Dr. Goddard. A total of 425 cases in all—paralytic and nonparalytic.

ROLE OF PUBLIC HEALTH SERVICE IN POLIO PROGRAM

Mr. Fogarty. Every once in a while someone will say, "Well, the Federal Government is spending too much money on research. All of this was accomplished by private organizations and doctors who had no connection with the Federal Government at all.

What part did the Public Health Service play in this polio program?

Dr. Terry. Insofar as polio is concerned, I think this is the one outstanding example.

Mr. Fogarty. You get the point?

Dr. Terry. Yes, sir.

Mr. Fogarty. I hear people say, "What is the Federal Government doing? The Foundation is responsible for this vaccine; and the educational program." Just generalizations, you know.

Dr. Terry. Yes, sir. I don't think there is any question but that the National Foundation has done a terrific lot over a period of years, both in terms of public consciousness as well as supporting the development of vaccines.

On the other hand, in this area, as in many others, it is not one individual organization that does it, although they had a very large part in this. Certainly, the contributions of universities and other research institutions outside of the Polio Foundation have been very important, as have the research activities which have been supported by the National Institutes of Health.

I don't know of any particular instance of a development where a voluntary organization has done such a large part of a development as the National Foundation did, in relation to polio, but just as in this area, it is always many contributions from many sources that contribute to the final result.

Mr. FOGARTY. Tell us what part the Public Health Service played in the conquest of polio.

Dr. TERRY. Well, insofar as the Public Health Service is concerned, I am trying to recall which specific—maybe you could, Dr. Goddard.

Dr. GODDARD. Perhaps we could supply a couple of examples here, Dr. Terry. One of the outstanding contributions was our participation in field trials; and secondly, the supervision of the production of vaccine itself, to assure the public that the vaccine that reaches it is indeed safe. This has been no small undertaking.

Mr. FOGARTY. No. That was a tremendous undertaking.

Dr. GODDARD. I might add back in the early fifties, CDC was working with a polio virus and indeed had hopes of producing a live vaccine. The point Dr. Terry made earlier should be emphasized, that no scientist stands alone today. The work done by the Communicable Disease Center; by the National Institute of Allergy and Infectious Diseases; by Dr. Enders at Harvard and many others, all contributed to what Dr. Sabin was ultimately able to do. I have great faith in this system that provides information back and forth, and each of us feeds upon it and grows, and gains by the information that others have learned. So it is indeed hard to isolate those things that are done solely by one.

Mr. FOGARTY. I am not trying to isolate anything. I knew that your Center was working on viruses a long time ago. I thought that you had made many contributions in this field.

Dr. GODDARD. This is true. Take the group in Montgomery, Ala., for example. They did isolate an attenuated polio virus, and were working toward the development of an oral vaccine.

Mr. FOGARTY. I know that Dr. Enders at Harvard has been the recipient of Federal grants for some time, and maybe, if it were not for Dr. Enders, we would not have a vaccine.

Dr. GODDARD. That is true. This was the major breakthrough.

Mr. FOGARTY. Also, I think, the pharmaceutical industry is responsible to some extent for this vaccine.

I am not trying to take credit away from anyone. I just felt that the Public Health Service also played some part in this.

Mr. KELLY. I would like to ask Dr. Langmuir if he would give us a statement we could put in. I heard Dr. Langmuir trace the whole development of the attack on polio, at the commencement, to its conclusion, and it is an amazing thing to hear the total story put together, and how many people contributed.

Mr. FOGARTY. Will you supply something like that for the record?

(The information requested follows:)

CONTRIBUTIONS OF THE PUBLIC HEALTH SERVICE TO THE CONTROL OF POLIOMYELITIS

For more than half a century, the Public Health Service has been active in all phases of basic and applied research on poliomyelitis and thus has contributed substantially to the successful conquest of this crippling disease. For example, from 1907 to 1916, Dr. Wade Hampton Frost and a group of epidemiologists in the National Hygienic Laboratory conducted extensive epidemiologic studies of poliomyelitis in all parts of the country. This work culminated in the classic monograph of the 1916 epidemic of poliomyelitis in New York City, which even to this day stands as a definite epidemiologic study of this disease. In the 1920's and 1930's, studies of poliomyelitis were conducted. The most notable contribution was made by Dr. Charles Armstrong, who reported in 1939 the isolation of the Lansing strain of poliomyelitis virus in cotton rats and its passage to mice. This work established the existence of notable strains of poliomyelitis viruses, which was one of the essential steps to the development of both the inactivated and oral vaccine.

From the very beginning of the National Foundation for Infantile Paralysis, the Public Health Service has joined forces with this great voluntary effort and has participated in many collaborative undertakings. For example, in 1945 and 1946 the Communicable Disease Center, having special competencies in the use of DDT, participated with many of the National Foundation's grantees in studies of fly control as a potential epidemic measure. Also, when gamma globulin appeared to be a promising method for the control of epidemics, the Communicable Disease Center in 1953 conducted a cooperative nationwide evaluation and successfully defined the limits of its usefulness. This was done with the active support of a grant from the National Foundation, although the major investment of personnel and money and the direction of the study was from the Communicable Disease Center.

The following year, the Communicable Disease Center assigned 15 full-time professional epidemiologists and statisticians to assist in the Francis field trial of the Salk vaccine. Well before the announcement of this successful field trial, the Communicable Disease Center had already laid plans for the prompt and effective utilization of this great new discovery. Careful planning was needed for the rationing of short supplies of vaccine. A national surveillance program was developed to spot problems of vaccine potency and to identify outbreaks of poliolike disease due to agents other than the poliomyelitis virus. This poliomyelitis surveillance program was carefully planned as a cooperative undertaking with all State health departments and with a large number of consultants and grantees of the National Foundation who were deeply concerned with the successful prosecution of the campaign.

When cases of poliomyelitis were reported in association with vaccine manufactured by one particular laboratory, a direct national emergency resulted. The full forces of the Communicable Disease Center and particularly the epidemic intelligence service were directed to this problem. It was feared that a basic defect existed in the manufacturing process. Through the comprehensive surveillance program, it soon was possible, however, to localize the problem to certain lots of one particular manufacturer and to show that the vaccine of other manufacturers was safe. Therefore, the poliomyelitis control program could continue. Currently with the activities of the Communicable Disease Center during the early 1950's the research in the laboratories of the National Institutes of Health, particularly in the Laboratory of Biologic Control, was making notable progress. Dr. Karl Habel successfully adapted the type III polio to mice by the intraspinal route. When plans were developing for the Francis field trials, all lots of vaccine were safety tested in the National Institutes of Health and the basic steps for establishing standard procedures for production and for assuring the safety, purity, and potency were initiated. Beginning in May 1955, a committee, chaired by Dr. James A. Shannon, directed the studies necessary to solve the many problems encountered with this new vaccine.

From 1955 to 1960, intensive epidemiologic studies were conducted of each of the major epidemics of poliomyelitis that occurred, in Chicago in 1956, in Detroit in 1958, in Des Moines in 1958, and in Providence in 1960. These were major undertakings which revealed the problems that had to be faced in the national poliomyelitis campaign. Each year a full review of the findings in these epidemic studies indicated the modifications in the control measures that were necessary. As a result, all available resources were applied most effectively.

From the beginning of the effort to develop a live attenuated polio vaccine, many separate groups within the Public Health Service were active. For example, Dr. C. P. Li, working at the Montgomery Virus Laboratory of the Communicable Disease Center, adapted the type I polio virus to mice and by repeated passages an attenuated strain was developed. This strain, known as the LS strain, was given to Dr. Albert Sabin, and became the seed from which he developed his type I oral vaccine.

As soon as it became apparent an attenuated live virus vaccine was a promising additional method of control, the Public Health Service assumed leadership in guiding and coordinating the national effort to speed the safe and logical development of this product. Many exceedingly complex issues had to be faced. The production problem, the safety testing and the evaluation of community use presented far more complex issues than those faced with the Salk vaccine. The Division of Biologic Standards accepted this function as one of its major efforts. The work involved testing of candidate vaccine in many thousands of monkeys. New methods requiring the most meticulous neuropathology had to be developed. These were essential to insure the safety and effectiveness of the product.

With the successful solution to these problems, type I oral polio vaccine was licensed in 1961 and the types II and III vaccine soon thereafter. Now these new vaccines have been widely used throughout the country both for mass immunizations and for epidemic control. In 1963, there were only 368 cases of paralytic disease reported for the whole country compared with 13,850 in 1955, the year Salk vaccine first became available.

Mr. FOGARTY. I am not trying to take the credit away from anyone. I get sick and tired of hearing some people say, "Well, the Public Health Service did not do anything; they spent a lot of money and it was the private organizations or the Foundation that did all the work in this area."

Dr. GODDARD. Dr. Langmuir, too, played a role in terms of developing the surveillance system.

Mr. FOGARTY. I know. I was down there a couple of times. I think he did a lot of work in this area.

IMMUNIZATION PROGRAM FOR 1965

Mr. FOGARTY. On this immunization program, what are you going to do next year?

Dr. GODDARD. In 1965, sir?

Mr. FOGARTY. Yes.

Dr. GODDARD. During that period of time, we anticipate that the States that are now receiving project grant moneys to study the areas in which they have pockets of resistance will actually implement their programs to carry out the immunization activities and develop the long-range programs that are needed. If this is done we will not have a recurrence of this situation, where two-thirds of our children under five are inadequately immunized.

Mr. FOGARTY. Are all States cooperating?

Dr. GODDARD. Well of course, with a new program—and I would like to emphasize that there were only 44 days in 1963 that this program was funded, so this is basically a new program this fiscal year. There has been a variable response. We have at the present time, 41 projects funded, and I can provide—if you wish—a detailed breakdown for the record of which States now have projects.

Mr. FOGARTY. Put it in the record.

Dr. GODDARD. All right, sir.

(The information requested follows:)

States and territories participating in community immunization grants as of February 17, 1964:

Alabama
Alaska
Arkansas
California
Colorado
Connecticut
District of Columbia
Florida
Iowa
Kansas
Kentucky
Louisiana
Massachusetts
Mississippi
Missouri
New Hampshire
New Jersey
New Mexico
New York
North Carolina
North Dakota
Oklahoma
Oregon
Pennsylvania
Puerto Rico
South Carolina
South Dakota
Utah
Washington
West Virginia

Local participation in community immunization grants as of February 17, 1964:

Allegheny County (Pittsburgh), Pa.
Baltimore, Md.
Chicago, Ill.
Dallas, Tex.
Des Moines-Polk County, Iowa
Detroit, Mich.
Houston, Tex.
New York City, N.Y.
Omaha-Douglas County, Nebr.
Philadelphia, Pa.
St. Louis County, Mo.

EXTENT OF PROGRAM COVERAGE

Mr. Fogarty. About what percentage of children will have been vaccinated when this program is completed?

Dr. Goddard. We are hoping to reach a goal of approximately 85 percent of the children under 5. We think that this is a level which would prevent the occurrence of any outbreaks of diphtheria or whooping cough in a given community.

ERADICATION OF AEDES AEGYPTI MOSQUITO PROGRAM

Mr. Fogarty. We appropriated $3 million to start a program to eradicate the *Aedes aegypti* mosquito. What have you done so far with these funds?

Dr. Goddard. On the *Aedes aegypti* program, I am happy to be able to report to you that contracts are in the process of being signed with Puerto Rico, the Virgin Islands, and the State of Florida, and we are working with the State of Texas. We feel that we will be able to make a significant start this year. Spraying operations are scheduled to begin in the areas I have mentioned by April 15. Equipment and vehicles have been procured and staff is being recruited. We have approximately 52 persons now working with the *Aedes aegypti* activity.

As you recall, most of our activity is going to be carried out on a contractual basis, with the States in the receptive areas.

Mr. Fogarty. You have a request for $5,889,000 for 1965. What are your plans if you receive this request?

Dr. Goddard. This will permit us to expand from the 29 selected communities in the receptive area: Puerto Rico, Virgin Islands, Florida, and Texas—into some of the adjacent counties surrounding those communities, and begin to carry out surveys in the remaining States. There are nine States of course involved, so it would be an additional seven States in which we can begin to carry out the survey activities, to determine where we need to concentrate our resources in fiscal year 1966.

Mr. Fogarty. Do you mean the areas are in Alabama and Mississippi?

Dr. Goddard. Yes, sir. These are included in the other seven States.

Mr. Fogarty. Louisiana?

Dr. Goddard. We are starting surveys in fiscal year 1965 in Louisiana, Alabama, Mississippi, Arkansas, Tennessee, Georgia, and South Carolina.

STATE CONTRIBUTION

Mr. Fogarty. What contributions, if any, do the States make?

Dr. Goddard. The States have been providing—and of course, this is just the beginning—for example, in the Virgin Islands they are not only providing space, but they are actually providing some of the vehicles, storage space, and contributing staff time.

We feel that one of the significant contributions that States will probably make in this area is the provision of ancillary staff. Now, a lot of the work that has to be done is just plain, hard work of cleaning up areas of communities where trash is thrown out in the yards, where water collects and where the *Aedes aegypti* mosquito breeds. There has to be an intensive cleanup campaign on the part of the community. This is going to require efforts on the part of health education specialists, at State and local health department levels. They will be involved as well as the general sanitation program of the State and the mosquito abatement districts in those States that have them.

Mr. Fogarty. Is this in the contract which you negotiate with the States?

Dr. Goddard. In the contract that we negotiate, sir, it does specify that the State will provide space for the housing of personnel, equipment, and supportive services.

Mr. Fogarty. No cash?

Dr. Goddard. No matching requirement in terms of cash.

INTERNATIONAL EXCHANGE OF MEDICAL MOTION PICTURES

Mr. Fogarty. How much are you spending this year for this new "International exchange of medical motion pictures"?

Dr. Goddard. In fiscal year 1965 or fiscal year 1964?

Mr. Fogarty. This year, 1964. Tell us what the program is and why you think it is worth the money, and how much is budgeted for 1965?

Dr. Goddard. Well, we produce in this country, probably more audiovisuals than any other nation in the world, in the field of medicine, at least. These are useful in the training of personnel of all types. Now, with the general level of training that exists in many countries, it has been decided that it would be highly desirable to provide audiovisuals that they could use in training larger numbers of personnel. In order to do this, these have to be first translated and new sound tracks put in, in their own tongue, and this is what we have been doing this year. We have already completed five of these films in the Spanish version and are in the process of doing five additional films at this time.

Now, these are then available for distribution to centers that are being established. One such has been established in Colombia, South

America and as rapidly as these films are completed, we make them available to other nations so that they may use them in training of their health workers.

We have asked for an additional five persons for next year, and an increase of $71,875, to extend and expand this international film exchange process. I would like to emphasize also that it is necessary that we have the mechanism to actually carry out the exchange of the films or the loan of the films to the other nations, as well as produce them. This means cataloging them; keeping track of where they are; having people who can ship.

Mr. FOGARTY. Some people may say this ought to be in our foreign aid program rather than the Public Health Service.

What is your answer to that?

Dr. GODDARD. My personal opinion is it belongs right where it is. We have good contact with the countries in the health field; we have health workers dealing with health workers.

Mr. FOGARTY. I have to agree with you in your personal opinion on this. I think we could do a lot better work if we had more of the foreign aid program in the health area than we have, at this time.

Dr. GODDARD. One of the things that has been pleasing to me at the Center has been the steady stream of visitors from abroad who come to the Center. We have some 7,500 trainees a year. A goodly number of these do come from other nations. In fact, 41 other nations. They go back to their country with a full knowledge of the resources we can make available to them. One of the important ones is in the field of audiovisuals.

Mr. FOGARTY. I think in the whole health field, we have great opportunity. I think we should be giving some consideration to building up our international health program. I think people can understand and appreciate this sort of help to foreign countries.

Dr. GODDARD. To answer the last part of your question, we did have $202,000 additional for this current year's activity in the international exchange and 8 positions, so this would give us then a total of 13 positions and approximately $274,000.

RESEARCH GRANT PROGRAM

Mr. FOGARTY. It looks like you, too, are phasing out your research grant program. Are these figures on page 103 right—you plan to support fewer projects in 1965 than 1964?

Dr. GODDARD. If they are, I would have to say this is news to me. I thought we would have funds for nine additional projects. We would have an increase of $48,000 available to us.

Mr. FOGARTY. As I look at the total here——

Dr. GODDARD. Fewer total, probably.

Mr. FOGARTY. You had 66 in 1964 and in 1965, you are going to finance 57.

Mr. HAMBLETON. The reason we have fewer is that some of the projects will be completed in 1964. We will support six new projects in addition, over and above the number of new ones we supported in 1964.

Mr. Fogarty. You have fewer projects budgeted for 1965.

Mr. Hambleton. Fewer total projects.

Mr. Fogarty. It doesn't change my statement, does it? You are going to be supporting 57 in 1965 instead of 66 in 1964.

Mr. Hambleton. Yes, sir; but the total amount of money available to us would increase, slightly.

Mr. Fogarty. Well, that would be due to increased costs.

Dr. Goddard. About half of it goes for increased costs. We are not losing too much ground.

Of course, this is a new program at the Center. We have only been handling this on a full basis this fiscal year.

Mr. Fogarty. That doesn't look very good for the program, then, if it is new and you are cutting it back by nine projects this year. If it is a new program, that shows any promise, you generally come in here and say, "This is working real well now. It has proven itself and we are ready to expand it."

Dr. Goddard. This does give us an opportunity to have six new projects. The transfer did involve mostly committed funds. We are trying to change over to a type of project that we think is more closely geared to our mission; namely, the application of knowledge at the community level in the control of communicable diseases. This involves a different type of clientele in terms of research grants than the university groups that have been previously supported by this program.

Mr. Fogarty. That sounds good, but these justifications don't look good. What did you ask for?

Dr. Goddard. In research grants?

Mr. Kelly. His request was $123,000 greater than the amount included.

Dr. Goddard. $1,883,000.

SCHISTOSOMIASIS PROGRAM

Mr. Fogarty. What are you doing in the schistosomiasis program in Puerto Rico? It affects approximately one-fourth of the population, according to what you stated.

Dr. Goddard. About 25 percent of the population. We completed a survey of some 10,000 schoolchildren this past year. That study ran into June of this past calendar year, and we found that, indeed, about 28 percent of the schoolchildren did show positive response to skin tests. We have been evaluating four methods of possible control or eradication of schistosomiasis in Puerto Rico:

Biological control, through the use of competitive snails, which are introduced into the same waters in which the snail now harboring the schistosomiasis resides.

Chemical treatment of these waters with a variety of products as they become available from manufacturers.

Control through changes in waterflow and water levels is a third method that has been used.

The fourth activity would be one relating to the herbicides—getting rid of the plant life that the snails must have to sustain their life.

Mr. Fogarty. Are you working on all four? Are you trying to find out what is the best?

Dr. Goddard. We are trying to evaluate these on a somewhat limited scale to get a better feel for which method would be best for the peculiar conditions that exist in Puerto Rico, where the streams are coming down from the mountains; small, fast running, where they are often used for bathing and sewage by the population in the villages and the rural areas. Then we hope to apply in one watershed the most promising method, and at this point in time it appears that the use of the competitive snails is the most promising.

Mr. Fogarty. I thought you had taken a section or an area in Puerto Rico.

Dr. Goddard. No, sir. We have not singled out one section, but have established six demonstration areas.

Mr. Fogarty. I thought your man down there, Dr. Ferguson, said that they concentrated on Vieques Island, and practically eliminated it there.

Dr. Goddard. I would have to check our records to see what they have done in Vieques but in terms of the four types of approaches I mentioned, they have selected or would like to select a large watershed south of San Juan itself outside of the urban area, and because of the peculiarities of the geography, concentrate on that one watershed for a large-scale test. They feel this is what will be needed.

Mr. Fogarty. Have you been called on for any help in this problem in Brazil?

Dr. Goddard. No, sir; although we are called upon to provide expertise in terms of consultants to the World Health Organization—through that organization.

Mr. Fogarty. In the northern part of Brazil, this is a terrible problem, is it not?

Dr. Goddard. Yes, it is in many parts of the world. Africa—the Far East.

Mr. Fogarty. We were told that the northern part of Brazil was one of the worst areas in the world.

Dr. Goddard. It is indeed.

The type of project we are doing in Puerto Rico is being watched in many areas where schistosomiasis is a serious problem.

Mr. Fogarty. In Africa, it is serious?

Dr. Goddard. It is.

Mr. Fogarty. Please check on what has been done on Vieques Island.

Dr. Goddard. Yes, and we will submit it for the record.

Mr. Fogarty. I am pretty sure they said they had practically eliminated the carrier snail.

Schistosomiasis Control on Vieques Island

During the past 9 years, the Communicable Disease Center Laboratory in Puerto Rico has cooperated in schistosomiasis control demonstration projects with the Puerto Rico Department of Health. Six project areas have been established and various control techniques have been applied and evaluated in these areas. In addition to control directed at the snail intermediate host of the disease, *Australorbis glabratus*, emphasis has been placed on health education to make the high-risk population aware of the life cycle of *Schistosoma mansoni* and to encourage them to avoid schistosome cercariae-infested waters.

Field control has been carried out by the Puerto Rico Department of Health, and both biological and epidemiological evaluations have been performed or guided by personnel of the Communicable Disease Center Laboratory.

On Vieques Island snail control has been obtained by the use of a combination of chemical mollusciciding treatments and implants of the predatory snail *Marisa cornuarietis*. An estimated 95 percent of the original population of the host snail has been destroyed .

An annual program of surveillance by single fecal examination is conducted in children in the demonstration project areas to determine the trends in incidence of schistosomiasis in order to evaluate the effectiveness of control methods employed. Results of this limited screening technique in first grade school children on Vieques Island are shown in the accompanying table. As indicated by the table, the incidence of infection in Vieques Island children has been approximately 10 percent prior to the start of the demonstration program, reached zero in 1960, showed a very slight rise in 1961, and reached zero again in 1962. The intermediate host snail, *A. glabratus*, continues to be found in three swampy areas on Vieques Island in low population. Efforts are being made to destroy the remaining infestation in these swamps through the use of various combinations of mollusciciding, weed cutting and weed firing for better distribution of chemicals, minor manual ditching, and several regimens of chemical application concerning dosage and periodic treatment.

TABLE

Annual schistosomiasis incidence in 1st grade children on Vieques Island as measured by fecal examination

Year:	Percent positive	Year—Continued	Percent positive
1954	8.5	1959	5.9
1955	9.5	1960	0
1956	10.2	1961	1.2
1957	(1)	1962	0
1958	2.6		

(1) No figure available.

HEPATITIS

Mr. FOGARTY. Your justifications say, "Despite the cyclic case-rate pattern, the number of deaths attributable to hepatitis is increasing each year." How do you account for that?

Dr. GODDARD. Hepatitis is—we first have to differentiate between what is called serum hepatitis and infectious hepatitis. Serum hepatitis has a very high death rate, and is often associated with the administration of blood products, or the use of needles that have been improperly sterilized. I should correct the record by withdrawing the phrase "often associated with blood products" because we do a remarkable job in this country in the use of whole blood products, in terms of the low reaction rate, and ill effects that may occur.

Serum hepatitis is associated with the use of improperly sterilized needles, and occasionally, rarely, with processed blood product.

Infectious hepatitis, on the other hand——

Dr. TERRY. There are fewer cases of serum hepatitis.

Dr. GODDARD. There are fewer cases.

Dr. TERRY. Very few cases.

Dr. GODDARD. There is a high case fatality rate.

Infectious hepatitis, being spread from person to person, or by waterborne or food-borne epidemics, may involve variable portions of the population. We are now in the down phase of the cycle of hepatitis. We had about 51,000 cases last year, and we have had, as recently as 3 years ago, 72,000 cases.

No one really knows the long-term consequences of this type of infection involving the liver; or indeed, we don't really know the true incidence of the disease. We have not as yet been able to capture the virus. This is indeed, our main effort, involving not only the Communicable Disease Center, but also the National Institute of Allergy and Infectious Diseases. We have joined together in a program which we hope will lead, in a reasonable period of time, to the capture of the virus. If this is done, then there is hope for the development, as there was in poliomyelitis, of a vaccine or means of immunizing the population.

RABIES

Mr. Fogarty. In rabies, you say that over 32,000 persons were required to undergo the Pasteur treatment last year.

Dr. Goddard. Yes, sir.

Mr. Fogarty. When Mr. Lanham from Georgia was on this committee, this was of great concern to him. We added funds to this program. What progress is being made?

Mr. Goddard. Well, I think a number of things are happening in the rabies field that hold promise for us.

We are working on the development of a vaccine that can be given to humans, so that a person who has a high risk of exposure, such as veterinarians or postmen, people who have to deliver in the area immediately surrounding a home, milkmen, perhaps, could be immunized against rabies.

Now, this is in the stage of study involving veterinary student volunteers. This is one field we think holds promise.

Secondly, we are able to report that communities by and large are doing a better job of keeping their dog population immunized against rabies, and of course, there have been improvements in the immunizing agents that are used for animals.

We are still concerned about the increase, on the other hand, of rabies in the bat population, and the problems that this causes, because the attacks are unprovoked, often coming in broad daylight, and you cannot always capture the animal to be sure it is rabid. These types of occurrences are being noticed in increasing numbers in States where they never took place before.

Mr. Fogarty. That is in the north, isn't it?

Dr. Goddard. Yes, sir.

Mr. Fogarty. What part of the Canadian border?

Dr. Goddard. Well, it is not necessarily the bat along the Canadian border, but many States that never had a problem with bat rabies. For example, North Carolina I believe had seven persons reported bitten this past year. Pennsylvania has also had some problems along this line.

Now, along the Canadian border and New England, we are seeing an occurrence of rabies in the wildlife population.

Mr. Fogarty. What States?

Dr. Goddard. Along the borders of Maine, Vermont, and New Hampshire. This has been absent east of the Hudson River in the wildlife population for many, many years. So this has been something new which we have not had to contend with until just these past few years.

Mr. Forgarty. Do you have any idea how it started in this area?

Dr. Goddard. In the New England area, we suspect that it is through wildlife coming across the border, and infecting the wildlife on this side.

Mr. Fogarty. Is Canada doing anything about this?

Dr. Goddard. We have had a meeting of the New England health officers' representatives in an effort to control the rabies along the Canadian-United States border, and it is my understanding that there have been increased efforts to improve the situation. You must understand, of course, in wildlife this just is not as easy as it is with domestic animals.

Mr. Fogarty. No, but great efforts have been made in the direction of immunizing dogs.

Dr. Goddard. Yes, but we do not feel rabies is largely being spread by dogs.

Mr. Fogarty. I see.

Dr. Goddard. That is true along the southern borders, but up there, it is the wildlife—the skunk and fox rabies seem to be highly prevalent.

Mr. Fogarty. They generally don't bite human beings.

Dr. Goddard. We have recorded instances of this—campers, people being out in the open.

There is also something encouraging in the way of developing a device that will permit immunizing wild animals. This is a device that the animal itself would trigger and the vaccine would be propelled into the nose and thus into the body.

Mr. Fogarty. What other animals? New England, I am talking about.

Dr. Goddard. Well, I understand that the fox and the skunk are the main reservoirs at the present time.

LACK OF TRAINED EPIDEMIOLOGISTS

Mr. Fogarty. Now, this trend of increased demand for epidemic services will unquestionably continue in 1965. It will go on and on and on, will it not?

Dr. Goddard. It will, sir, unless we can find some way of training enough epidemiologists so that every State and major metropolitan area can have its own personnel, and I will be very candid and say they would like to have such people, but they are not available. We estimate there is a need for 1,000 epidemiologists in the United States today; and even in those instances, where States are offering what we consider good salaries, often they are unable to find persons to fill these jobs. Even more, we have what we would call the effective half life of an epidemiologist, which would be about 5 years. As these people are trained and go to work, either for the State health departments or local health departments, or even for us, the degree of competency that they show generally means that within 5 to 10 years, they are promoted to administrative jobs, and are no longer available as shoe leather epidemiologists. So we are going to continue to have need for larger numbers of epidemiologists than we are now training.

Mr. Fogarty. Your predecessors have been talking about this problem for 10 years, I guess. What are we going to do about it?

Dr. Goddard. Well, I hope that we can train them. Dr. Langmuir has contributed remarkably in this field.

Mr. Fogarty. He has talked about this lack of trained epidemiologists for years.

Dr. Goddard. He and his group in CDC have done more than any other group in the United States to alleviate the shortage, and this still has not been enough. We have at the present time 40 young men in training as epidemiologists.

Mr. Fogarty. Why don't you have 100 instead of 40?

Dr. Goddard. This is the figure that we think it will take to do the job. It takes time to build up to this, and we will have to have budgetary support for it.

Mr. Fogarty. What did you ask for in this area?

Dr. Goddard. The total we asked for are eight additional positions which are represented in this budget. There is no reduction.

Mr. Hambleton. We asked for $887,000.

Mr. Fogarty. I think it should be 100 instead of 40. Why did you not ask for more money? You might have gotten it in this area.

Dr. Goddard. I have no good answer for that, Mr. Chairman.

Mr. Fogarty. You should have an answer. You are the boss down there, are you not?

Dr. Goddard. Yes, sir; and I have supported this program very vigorously with Dr. Langmuir.

Mr. Fogarty. Did somebody tell you what you could ask for and what you could not ask for? Did someone talk you out of it?

Dr. Goddard. No, sir.

Mr. Fogarty. Sometimes you people are talked out of things, you know.

Dr. Goddard. We have in the past, as I recall—requested additional funds—I am trying now to separate this in my own mind, which budget cycle we were working on at the time.

Mr. Fogarty. You can fix it up in the record.

(Note.—An additional 71 positions and $922,000 was my original request for epidemic services.)

Mr. Fogarty. I just have one more question.

DENGUE FEVER

You had a release in August, the Department did, about dengue fever in Puerto Rico. This said there were 2,000 cases of the disease in three widely separated areas.

Dr. Goddard. Yes, sir.

Mr. Fogarty. What happened?

Dr. Goddard. We had now a total of some 28,000 cases reported from Puerto Rico, from a few of the other areas of the Caribbean. The mosquito that carries dengue fever is the same mosquito that carries yellow fever—the *Aedes aegypti* mosquito.

In Puerto Rico the disease has fairly well run its course, we believe. It is now out in the western end of the island, and we are having about 50 to 60 new cases per week reported. It has also been reported in Jamaica and Antigua.

Mr. **Fogarty.** Have there been many cases among people from the mainland?

Dr. **Goddard.** Well, sir, there have been only a very few visitors from the mainland who have had this diagnosis confirmed serologically, after their return from the Caribbean.

This is the first time this disease had made its appearance in the island since near the end of World War II. I think it illustrates the thing we were talking about before the committee last year in terms of the threat that the *Aedes aegypti* mosquito itself poses by its very existence in the southern part of the United States. This could just as easily have been yellow fever.

Mr. **Fogarty.** This is the first outbreak in the Western Hemisphere since 1953, in Jamaica?

Dr. **Goddard.** Yes, sir.

Mr. **Fogarty.** Then there was one case in New York City.

Dr. **Goddard.** Yes, sir.

Mr. **Fogarty.** I guess from Jamaica; and four in Detroit.

Dr. **Goddard.** These were people who, of course, as you understand, obtained the infection while visiting the Caribbean islands and returned back to their homes.

Mr. **Fogarty.** Mr. Denton?

POLIO EPIDEMIC IN SOUTH PACIFIC

Mr. **Denton.** I want to ask about a case of a little girl who had been inoculated with Salk vaccine, and she was immune, but she was a carrier of the disease and she landed on an island where the disease is unknown, and her nurse got the disease, and it just spread like wildfire. I guess you know where that case is. In Majuro in the Marshall Islands.

Is there anything you can do to detect if a person is a carrier of polio, and is there anything that you can do to protect the population from that kind of epidemic?

Dr. **Goddard.** The answer is both yes and no, Mr. Denton. One can, through special studies, determine whether or not an individual is shedding the polio virus in his stool. Now, this is a very complicated laboratory procedure. If this is found, then you are warned in advance, and if you knew such a person were going to an area where the population were largely unimmunized, you could then carry out a program and immunize the population; but as a practical matter, it becomes almost impossible to do. This is why it is so important that communities take advantage—in fact, all over the world, we hope, some day—and immunize their people. It is so easy to do.

Mr. **Denton.** Did they call on you in that particular case?

Dr. **Goddard.** No, sir. I don't believe they did.

Mr. **Denton.** The native doctors were close there and the local doctor did not diagnose at first what it was.

Dr. **Goddard.** Now, this was in the South Pacific?

Mr. **Denton.** In Majuro.

Dr. **Goddard.** We were involved in a large outbreak in the Trust Territory of the South Pacific.

Mr. **Denton.** That is it.

Dr. GODDARD. And we had Dr. Bryan of our staff and one or two others working actively with the Navy physicians. A very effective team was formed and went from island to island carrying out the immunization program.

Mr. DENTON. In the Marshall Islands?

Dr. GODDARD. In the Marshall Islands. I am sorry I did not catch that earlier. We were directly involved in the checking of that outbreak and since then Dr. Terry's representatives have been meeting with officials of the trust territory, and planning a long-range program to prevent recurrence not only of this but other diseases that can be prevented.

Mr. DENTON. They have a physical therapist that was out there, who was working with these crippled children.

Dr. GODDARD. Yes.

Mr. DENTON. Just one other question. A person is vaccinated for smallpox.

Dr. GODDARD. Yes.

Mr. DENTON. And it does not take; and he is vaccinated several times, and it does not take. What is the reason for that? Does it mean that a person is immune or what?

Dr. GODDARD. Most often it means the vaccine has not been properly stored, and I make such a statement knowing full well I can be challenged, but this is in fact what happens more often than not. The vaccine is not stored properly.

Now, we rarely have ever seen an individual that we could not get an effective take on, who gives this type of story.

Mr. FOGARTY. Thank you, Doctor. Is there anything else you want to say?

Dr. GODDARD. No, sir.

Mr. FOGARTY. We will recess until 1:30.

JUSTIFICATION MATERIAL

(Following is the justification material submitted to the committee:)

COMMUNICABLE DISEASE ACTIVITIES

Amounts available for obligation

	1964	1965
Appropriation	$28,405,000	$30,017,000
Transfer to "Salaries and expenses, Office of the Surgeon General" (42 U.S.C. 226)	−4,000	
Transfer to "Operating expenses, Public Buildings Service," General Services Administration (76 Stat. 728)	−21,175	
Proposed transfer from "National Heart Institute"	+184,000	
Comparative transfer from other accounts	+1,000	
Unobligated balance brought forward	+8,456,435	
Total	37,021,260	30,017,000

Obligations by activities

Description	1964 estimate		1965 estimate		Increase or decrease	
	Positions	Amount	Positions	Amount	Positions	Amount
1. Grants:						
(*a*) Research	------	$1, 712, 000	------	$1, 760, 000	------	+$48, 000
(*b*) Community immunization	------	18, 661. 435	------	8. 000, 000	------	−10, 661, 435
2. Research, training, and technical services	1, 448	13, 647, 825	1, 471	14, 368. 000	+23	+720, 175
Development of control techniques	747	6, 135. 000	757	6, 262. 200	+10	+127. 200
Special assistance to States	701	7, 512. 825	714	8, 105. 800	+13	+592. 975
3. Aedes aegypti eradication	164	3, 000, 000	226	5, 889, 000	+62	+2, 889. 000
Total obligations	1, 612	37, 021, 260	1, 697	30, 017, 000	+85	−7, 004. 260

Obligations by objects

	1964 estimate	1965 estimate	Increase or decrease
Total number of permanent positions	1, 612	1, 697	+85
Full-time equivalent of all other positions	175	95	−80
Average number of all employees	1, 467	1, 589	+122
Number of employees at end of year:			
Permanent positions	1, 419	1. 504	+85
Other	216	132	−84
11 Personnel compensation:			
Permanent positions	$8. 503. 100	$10, 240. 400	+$1, 737. 300
Positions other than permanent	1, 131, 000	649. 100	−481, 900
Other personnel compensation	129. 800	102. 400	−27, 400
Total personnel compensation	9. 763. 900	10. 991. 900	+1, 228. 000
12 Personnel benefits	1, 048, 900	1, 171, 800	+122, 900
21 Travel and transportation of persons	794. 900	940. 000	+145. 100
22 Transportation of things	322, 700	504, 700	+182, 000
23 Rent, communications, and utilities	570. 825	654. 000	+83. 175
24 Printing and reproduction	120. 500	166, 700	+46. 200
25 Other services	2, 279, 400	3, 432. 300	+1, 152, 900
Services of other agencies	2, 000	2, 000	-------------
Payment to "Bureau of State Services management fund"	507, 000	540. 000	+33, 000
Payment to "National Institutes of Health management fund"	22. 000	22. 000	-------------
26 Supplies and materials	1, 438, 100	1, 844. 300	+406. 200
31 Equipment	980. 800	627. 600	−353. 200
41 Grants, subsidies, and contributions	19. 171. 835	9. 121. 300	−10. 050, 535
Subtotal	37, 022, 860	30, 018. 600	−7, 004, 260
Deduct quarters and subsistence charges	−1, 600	−1, 600	-------------
Total obligations by objects	37, 021, 260	30, 017, 000	−7, 004, 260

Summary of changes

1964 enacted appropriation	$28, 405, 000
Transferred to "Salaries and expenses, Office of the Surgeon General"	−4, 000
Transferred to "Operating expense, Public Buildings Service," General Services Administration	−21. 175
Proposed transfer from "National Heart Institute"	+184, 000
Comparative transfer from other accounts	+1, 000
Unobligated balance brought forward	+8, 456, 435
Total estimated obligations, 1964	37. 021, 260
1965 estimated obligations	30. 017, 000
Total change	−7, 004, 260

INCREASES

A. "Built in":		
1. Annualization of step 2 of civil service pay increase (research, training, and technical services)		+$146,800
2. Annualization of uniformed services pay increase (research, training, and technical services)		+57,000
3. Annualization of 327 positions new in 1964		+1,392,700
Research, training, and technical services (163 positions)	+$382,700	
Aedes aegypti eradication program (164 positions)	+1,010,000	
4. Pro rata share of annualization of new positions in 1964 for the Bureau of State Services management fund (research, training, and technical services)		+4,200
Subtotal, "built-in" increases		+1,600,700
B. Program increases:		
1. Expansion of research grants		+48,000
2. Expansion of hepatitis research (10 positions)		+39,800
3. Expansion of epidemic services (8 positions)		+120,200
4. Expansion of medical audiovisual services (5 positions		+71,875
5. *Aedes aegypti* eradication program—2d phase (62 positions)		+2,189,000
6. Increase in the pro rata share of the Bureau of State Services management fund (research, training, and technical services)		+3,700
Subtotal, program increases		+2,472,575
Gross increases		+4,073,275

DECREASES

1. Nonrecurring equipment costs		—388,700
Research, training, and technical services	—$78,700	
Aedes aegypti eradication program	—310,000	
2. 1 less day's pay (262 days in 1964; 261 days in 1965) (research, training, and technical services)		—27,400
3. Reduction in community immunization grants obligations		—10,661,435
Subtotal, decreases		—11,077,535
Total net change requested		—7,004,260

EXPLANATION OF CHANGES

Increases

Research grants: The request of $1,760,000, an increase of $48,000 over 1964, will provide funds for estimated continuations, increases in indirect costs, and nine new grants.

Hepatitis research: An increase of $39,800 and 10 positions is requested to intensify efforts to isolate the causative agent of hepatitis and to increase our knowledge of the epidemiology of the disease.

Epidemic services: An increase of $120,200 and eight positions is requested for the addition of eight epidemic intelligence service officers to help meet the growing demand for epidemic assistance and to strengthen the surveillance structure.

Medical audiovisual services: An increase of $71,875 and five positions is requested for extension of the international film exchange program. Additional films will be translated, pictorially adapted, and scored with appropriate foreign language tracks.

Aedes aegypti eradication program: An increase of $2,189,000 and 62 positions is requested to permit expansion of a program to eradicate the *Aedes aegypti* mosquito in the United States, Puerto Rico, and the Virgin Islands which was initiated in 1964 to fulfill this country's international commitment as a member of the American nations.

Decreases

Community immunization grants: The decrease in obligations of $10,661,435 results from (1) a total carryover of $8,456,435 from 1963 to 1964 which will not be available beyond 1964 and (2) a savings of $2,205,000 in 1965 under the 1964 appropriation amount of $10,205,000.

Explanation of transfers

	1964 estimate	1965 estimate	Purpose
Transfer to—			
"Salaries and expenses, Office of the Surgeon General."	−$4,000	0	Centralization of grants policy activities.
"Operating expenses, Public Buildings Service," General Services Administration.	−21,175	0	Transfer of rental costs for leased space.
Transfer from—"National Heart Institute."	+184,000	0	Proposed transfer due to Uniformed Services Pay Act of 1963.
Comparative transfer from—"Salaries and expenses, Office of the Surgeon General."	+1,000	0	Decentralization of accounting point costs.

Communicable disease activities

	Budget estimate to Congress	House allowance	Senate allowance	Appropriation
1955	$4,397,000	$4,300,000	$4,300,000	$4,300,000
1956	4,717,800	[1] 4,546,000	5,567,800	5,451,000
1957	5,750,000	5,750,000	5,750,000	5,750,000
1958	6,760,000	[2] 6,200,000	7,050,000	7,050,000
1959	6,623,000	6,490,000	7,573,000	6,890,000
1960	8,175,000	8,140,000	8,275,000	8,157,500
1961 [3]	9,578,500	[4] 8,578,500	9,578,500	9,578,500
1962	9,778,100	9,778,000	10,028,000	10,000,000
1963	22,662,000	15,492,000	22,892,000	18,892,000
1964	30,429,000	25,405,000	30,405,000	28,405,000
1965	30,017,000			

[1] Supplementals of $116,800 and $55,000 not considered by the House.

[2] Supplemental of $500,000 not considered by the House.

[3] Excludes amounts for control of venereal diseases which were carried as a part of this appropriation. The amounts are shown under "Control of venereal diseases, Public Health Service."

[4] Supplemental of $1,000,000 not considered by the House.

Grants

	1964 estimate	1965 estimate	Increase or decrease
(*a*) Research	$1,712,000	$1,760,000	+$48,000

Estimated grant requirements

	1964 estimate		1965 estimate		Increase or decrease	
	Number	Amount	Number	Amount	Number	Amount
1. Continuations:						
A. Noncompeting	56	$1,265,000	41	$1,020,000	−15	−$245,000
B. Competing	7	297,000	7	297,000		
2. Supplementals	(3)	25,000	(3)	25,000		
3. New grants	3	63,000	9	334,000	+6	+271,000
Subtotal	66	1,650,000	57	1,676,000	−9	+26,000
4. Increase in indirect costs:						
A. To 20 percent [1]		62,000		63,000		+1,000
B. To 25 percent [2]				21,000		+21,000
Total indirect costs		62,000		84,000		+22,000
5. Total	66	1,712,000	57	1,760,000	−9	+48,000

[1] Relates to all grants approved for support in 1964 and 1965.

[2] Relates to proposed increase in indirect cost rate to 25 percent for grants awarded on or after Jan. 1, 1965.

The need for practical application of existing knowledge to the control of communicable diseases is well recognized, but there are many gaps in the methodology needed to accomplish this long-range goal. Much research is needed, and research directed toward the complex problems of disease control on a community-wide basis has received relatively little emphasis from grant programs in the past. With the recent establishment of a research grants program in the Communicable Disease Center, opportunities now exist in the field for obtaining support for studies, experiments, and evaluations of a wide variety of efforts aimed at control. In order to develop interest in these areas, a program of active stimulation has been carried on for the past several months, a program that is already beginning to produce tangible results in the form of research applications of high quality.

Since the Communicable Disease Center's research grant program was initiated by a transfer from the National Institutes of Health in 1964, the majority of 1964 funds available are committed to the support of ongoing projects. These include studies on the prophylaxis of measles, on staphylococcal and streptococcal epidemiology in families, on the epidemiologic basis of tuberculosis eradication, and on the identification of anaerobic bacteria by the fluorescent antibody method.

For 1965, program emphasis will be placed on stimulating research into the major areas of communicable disease control. It is anticipated that investigations of the following types will be supported:

1. An experimental approach to control and eventual eradication of schistosomiasis involving an entire watershed in Puerto Rico.
2. Evaluation for specificity and sensitivity of a serological test for the diagnosis of syphilis.
3. A large-scale epidemiological study aimed at the eventual control of histoplasmosis.
4. Evaluation and standardization of laboratory diagnostic tests of public health importance.

Through such projects, the research grant program will continue to complement the intramural research operations of the Center in developing health services to the American people.

	1964 estimate	1965 estimate	Increase or decrease
(*b*) Community immunization grants	$18,661,435	$8,000,000	−$10,661,435

Proven, effective vaccines against poliomyelitis, diphtheria, whooping cough, and tetanus exist. This immunizing armamentarium has been further strengthened by the licensing of trivalent oral polio vaccines. Vaccines are available, and the administration of the vaccines has been simplified through the use of jet-injector guns, multiple vaccinations such as diphtheria, pertussis (whooping cough), poliomyelitis, and tetanus, and the licensing and marketing of trivalent oral vaccines. Scientific research and development have provided us the wherewithal to prevent these four diseases. Yet, in 1962 this country experienced more than 19,000 cases and in 1961 about 500 deaths caused by these preventable diseases. It is clear that the public is not getting full protection. Only about one-third of the Nation's 20.3 million preschool children have received adequate vaccinations. Behind these statistics is the fact that the low level of immunization exists in certain population groups—the lower socioeconomic areas. These represent pockets of unprotected people to maintain and disseminate the diseases—reservoirs of susceptibles which can be found in nearly every State and city in the United States.

To rectify this situation Congress passed the Vaccination Assistance Act of 1962. Under the act, the Surgeon General is authorized to make grants to States and, with their approval, to communities to protect the population against polio, diphtheria, whooping cough, and tetanus. Grants may be made to support the organization and promotion of intensive immunization campaigns and for laboratory and epidemiological surveillance of the four diseases. In recognition of the special public health problem that the large reservoir of unimmunized preschool children represents, there is provision in the act for the purchase of vaccines to immunize children under 5 years of age. Funds appropriated in 1963 and 1964 will be available for obligation for 2 years. However, the funds requested in 1965 are available only for 1 year.

In May 1963 Congress provided $8,700,000 in the Supplemental Appropriation Act to start this program. During the last 2 months of 1963 emphasis was placed upon establishing the necessary program and administrative machinery and upon familiarizing States and communities with the specific terms and conditions of the grant program. While only one grant amounting to $243,565 was awarded prior to June 30, 1963, many were reviewed and even more were under consideration by the States. By the middle of December, grants totaling $5,208,265 had been awarded. As was anticipated, the nature and approach to the problem have varied widely from State to State. In one State, schoolteachers are being employed during the summer months to conduct a statewide survey and to encourage parents to have themselves and their children vaccinated. Another State is improving its program to maintain communitywide immunity by means of an intensive followup on birth certificates. Still other States are initiating intensive immunization programs in selected counties or communities which will serve to demonstrate techniques and to stimulate other areas of the State.

Without such intensive, thorough efforts we can expect recurring episodes of disease, even in apparently well-immunized communities. For example in 1962, Huntsville, Ala., which has high levels of immunization, was faced with a diphtheria epidemic. The disease had been maintained and spread in the lower socioeconomic areas of the city—areas hardest to reach with public health programs.

With the funds available in 1964, $18,661,435, the States will be able to (1) initiate their intensive immunization programs with emphasis on determining their immunization status, conducting more generalized vaccination programs, and establishing improved maintenance programs; (2) evaluate the success of the initial phase of their program and pinpoint specific problem areas; and (3) followup with programs designed to reach unresponsive segments of the population. In other words, with this support adequate immunization programs should be available to 75 percent of the children of this country.

In spite of the condensed timetable under which the program is operating, it is anticipated that the States will be in a position to move into the last phase of the program. Basically, efforts will be directed toward reaching the last of the hard core of nonresponders and toward refining ongoing programs. In trying to reach a numerically smaller group of susceptibles at this point in the program, we are faced with a most difficult problem in terms of numbers of persons vaccinated in relation to efforts expended. The condensed timetable upon which we are working and the wide-scale usage of oral polio vaccine in community programs prior to implementation of this legislation have led to a reevaluation of the grant funds needed. For these reasons, only $8 million of the $11 million authorized is requested. If the States are successful in this "mopup" phase of the program, we, as a Nation, will have eliminated our immunization lag. At the same time, the improved ongoing vaccination programs will serve to maintain these higher immunization levels to provide continued protection against diphtheria, whooping cough, polio, and tetanus.

Research, training, and technical services

	1964 estimate		1965 estimate		Increase or decrease	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	1,448	$9,245,200	1,471	$9,843,200	+23	+$598,000
Other expenses	------	4,404,225	------	4,526,400	------	+122,175
Subtotal	1,448	13,649,425	1,471	14,369,600	+23	+720,175
Deduct quarters and subsistence charges	------	−1,600	------	−1,600	------	------------
Total	1,448	13,647,825	1,471	14,368,000	+23	+720,175
SUMMARY OF PROGRAM						
Development of control techniques	747	6,135,000	757	6,262,200	+10	+127,200
Viral, bacterial, and fungal	470	4,175,200	480	4,273,900	+10	+98,700
Biology and control of disease vectors	221	1,285,200	221	1,309,200	------	+24,000
Diseases of animals transmissible to man	56	674,600	56	679,100	------	+4,500
Special assistance to States	701	7,512,825	714	8,105,800	+13	+592,975
Epidemic services	60	737,000	68	887,700	+8	+150,700
National laboratory improvement and reference services	314	3,273,300	314	3,547,100	------	+273,800
Training of public health workers	99	982,200	99	1,039,000	------	+56,800
Medical audiovisual services	80	714,825	85	801,200	+5	+86,375
Communicable disease control demonstrations, consultations, and investigations	75	908,600	75	932,400	------	+23,800
Community immunization services	73	896,900	73	898,400	------	+1,500
Total	1,448	13,647,825	1,471	14,368,000	+23	+720,175

Development of control techniques

	1964 estimate	1965 estimate	Increase or decrease
Viral, bacterial, and fungal diseases	$4,175,200	$4,273,900	+$98,700

Control of communicable diseases is based upon breaking the chain of transmission at some point, for example identifying and eliminating the causative agent, controlling the intermediate hosts, or protecting (immunizing) the individual. At the Communicable Disease Center research on the viral, bacterial and fungal diseases is concerned with each aspect of the mode of transmission searching for the weak link in the chain. Studies carried out in the laboratory and in the field are aimed at achieving enough knowledge to permit the development of new or improved methodologies without which, disease such as hepatitis, encephalitis, histoplasmosis, and viral gastroenteritis will continue to represent serious threats to public health.

Viral hepatitis is one of the most important of the infectious disease problems. The disease reached the peak of its 6- to 10-year cycle in 1961 with 72,651 reported cases. This record number of cases exceeds by 20,000 the previous high reported in 1954. Despite its cyclic case rate pattern, the number of deaths attributable to hepatitis is increasing each year. The epidemic potential of this disease is becoming much more serious due to the increased mobility of modern living. Yet, this is a disease about which little is known. The causative agent or agents have not been isolated. More needs to be known about the mode of spread. Prophylactic measures need evaluation.

At present the broad spectrum of viral competency that exists at the Communicable Disease Center is being brought to bear on the hepatitis problem. Intensive studies are underway on various isolates from persons with hepatitis, and laboratory and field studies of both infectious and serum hepatitis are in progress to detect methods of spread. In an effort to accelerate progress and to supplement the current investigations, a central clearinghouse for characterization of candidate strains is being established to permit rapid verification of previously unrecognized viruses, comparison with other strains, and comparison of laboratory methodology. By employing serum specimens obtained from different geographic areas at different periods of time, epidemiologically significant factors will be determined. Thus, in 1965 efforts to isolate the causative agent and to increase our knowledge of the epidemiology of hepatitis will be intensified.

While research on hepatitis is directed toward identification of the specific virus, investigations of encephalitis are centered on the reservoir-vector-host relationship responsible for the growth and spread of the viruses and how and where the viruses survive the winter months. Encephalitis, or "sleeping sickness," is transmitted from its reservoirs in nature to man by mosquitoes and each summer there is a serious outbreak somewhere in the Nation. In addition to the suffering and death that results from damage to the brain and central nervous system, an outbreak can have significant economic impact on an infected State. For example, in 1962 an epidemic of St. Louis encephalitis involving over 300 cases and 28 deaths in St. Petersburg, Fla., aroused such fear and alarm that tourist trade was reduced. The most recent outbreaks occurred in July 1963 in south Georgia and Alabama.

The natural history and epidemiology of the encephalitis viruses are under limited investigation in several States to assemble knowledge concerning hosts, vectors, and modes of transmission. New potential overwinter reservoirs and vectors have been discovered. These hosts, together with their associated ectoparasites, are being studied in search for a transmission cycle subject to effective control. Work is also in progress to perfect techniques for predicting enzootic transmission rates, including experimental mosquito control measures.

In 1965, field studies will be intensified to define the role of small mammals as overwinter reservoirs of encephalitis and the role of arthropods as enzootic and human vectors for the viruses. These studies will be conducted in a variety of ecological habitats in attempts to find transmission cycles against which realistic control efforts may be directed.

While hepatitis and encephalitis represent two of the more serious viral diseases, acute viral gastroenteritis and other enteric diseases are second only to the common cold and acute respiratory diseases as causes of illness. The causes of these gastrointestinal diseases are multiple, but evidence shows that reported incidence of salmonellosis and shigellosis are misleadingly low. Appropriate epidemic situations are being investigated to the limit of present capabilities. Essentially every reported case of salmonellosis is found to be part of a broader epidemic situation, suggesting a large unrecognized aspect, or an iceberg phenomenon of undetermined size.

Institutionally acquired infections continue to assume an ever greater role in the total pattern of communicable disease in the United States as well as other countries. The true incidence of staphylococcus, streptococcus, and the gram-negative organisms within hospitals remains unknown, but projections from epidemics studied by the Communicable Disease Center over the past years show that the problem is far from being resolved.

Respiratory infections, especially those caused by viruses, result in an immeasurable amount of suffering and productivity loss each year. Some of these result in only a temporary loss of well-being, while others, such as influenza, cause a recurring mortality rate far in excess of the number of deaths normally anticipated. The activities of the Communicable Disease Center in this area are directed toward simplifying laboratory methodology and developing a better understanding of the etiological agents. These activities will continue at the same level in 1965.

Histoplasmosis is also receiving increasing recognition as a serious health problem. The Communicable Disease Center's program of intensive clinical, epidemiological, and mycological, research will continue in 1965 at present levels. These studies will develop further information on the prevalence of these fungi, control and preventive methodology, and more simplified effective diagnostic procedures.

Thus, research on the viral, bacterial, and fungal diseases will continue in 1965 with additional emphasis on hepatitis.

The increase of $98,700 includes $39,800 and 10 positions for hepatitis program expansion, and $58,900 for built-in items, including the pro rata share of the Bureau of State Services management fund.

	1964 estimate	1965 estimate	Increase or decrease
Biology and control of disease vectors	$1,285,200	$1,309,200	+$24,000

Diseases transmitted by arthropods and other animals constitute one of the largest and most important groups of human illnesses, and include those of viral, bacterial, and parasitic etiology. An essential element in controlling these diseases is further knowledge of the biology and ecology of the vectors, which will permit the development or modification of control methodology to take advantage of those characteristics of the insect most susceptible to effective control. Since their habits or susceptibility to control may change as a result of the application of different types of control measures, continual study is necessary to develop new and improved techniques. This is especially true in connection with the development of physiological or behavioristic resistance by arthropod disease vectors to chemicals.

The steadily increasing problems of resistance to insecticides among arthropods of public health importance makes it essential to investigate noninsecticidal control measures for these vectors. One of the most significant leads has been the development of techniques that involve the sexual sterilization of males of several insect species. Studies will be continued to determine the chemical or physical agents capable of sterilizing both sexes of the housefly and certain mosquitoes.

Schistosomiasis, a widespread tropical disease caused by a parasitic worm, affects approximately one-fourth of the population of Puerto Rico. It is a major public health problem in many other areas of the world, affecting approximately 150 million people. The life cycle of the worm includes an essential period of development in an intermediate host snail. Studies directed toward improvement of mollusciciding techniques, research on ecology of the host snail, investigations on the potential of biological control of the snail, and the effectiveness of selected drugs against schistosome infections in laboratory animals will continue during 1965. In Puerto Rico, special emphasis is being placed on the use of a competitive snail, *Marisa cornuarietis*, to eliminate the host snail, *Australobic glabratus*.

Each case of plague in humans is of grave concern, not only to the victim and his family, but also as a possible source of further infection if pneumonic plague develops from a bubonic infection. Limited plague control activities will be continued during 1965 through field and laboratory operations in cooperation with State and local health agencies on problems of an emergency nature involving plague or other vector-borne diseases, on evaluation of diagnostic techniques and therapy, and on the ecology and control of the host animals, the vectors, and the causal agent.

The increase of $24,000 represents built-in items. There is no change in program level.

	1964 estimate	1965 estimate	Increase or decrease
Diseases of animals transmissible to man	$674,600	$679,100	+$4,500

The diseases transmitted from animals to man continue to form a large segment of the communicable disease problem in the United States. Much remains to be done in devising and applying effective control measures against such animal diseases as leptospirosis, anthrax, psittacosis, brucellosis, Q-fever, salmonellosis, trichinosis and rabies, all of which present formidable problems in human health throughout the country. The distribution of these diseases is widespread and the problem in many of them is increasing. The most dramatic of these during the past year has been salmonellosis which, at the present rate of reported cases, will exceed 16,000 cases in 1963.

Brucellosis still ranks high as a cause of human illness and, during the past several years, one-third of the cases in the country were centered in the heavy swine-producing and pork-processing areas of the Midwest. An explosive outbreak of trichinosis occurred during the past year in Wisconsin, with unusually high incidence being reported from Pennsylvania, New York, Connecticut, and Oregon. Endemic centers of Q-fever continue in California and Idaho with fresh evidence of human infection being reported recently from Maryland. Important foci of human and animal anthrax cases have been investigated in Pennsylvania, North Carolina, West Virginia, and New Mexico. Psittacosis incidence has remained high with uniform distribution throughout the country and the animal sources of human cases evenly divided between infected pet parakeets and occupational exposure to infected turkeys.

During 1965, emphasis will be placed on laboratory studies on salmonellosis and leptosiprosis for defining serotypes for accurate and speedy epidemic investigations. Animal-human ecological relationship in brucellosis and psittacosis will be studied. Definitive study areas are being mapped out for field investigations in Q-fever, anthrax and trichinosis.

Rabies remains the most serious of the animal diseases transmitted to man in the United States. The decline of animal rabies cases, which occurred between 1946 (10,872 cases) and 1960 (3,567 cases), has stopped. In fact, the total number of rabies cases reported in 1962 rose to 3,732, including an alarming increase of cases along the Mexican and Canadian borders. The problem is mounting in the country's wildlife, particularly skunks, foxes, raccoons, and bats. More than one-third of the human cases of rabies in the last 5 years were caused by wild animal exposures. Another human rabies death attributed to a bat bite was reported in 1962 from Idaho. Over 32,000 persons were required to undergo the Pasteur treatment last year.

Of newest concern is the epizootic rabies situation at our two borders. The United States-Mexico border area contributed the bulk of the canine rabies cases in the country during 1962, with several human deaths resulting on both sides of the border. In the opposite corner of the country, the northern New England States, which had been rabies-free for 30 years, have this year had rabies introduced from neighboring Canada where the infection, principally in foxes, has spread rapidly through Ontario and Quebec in a southern and eastern direction into northern New York, Vermont, New Hampshire, and Maine.

In 1965, the Communicable Disease Center rabies investigations laboratory will have moved into its new facility at Lawrenceville. This will afford quarters for immunization studies aimed at improving human and animal rabies vaccines.

The increase of $4,500 represents built-in items. There is no change in program level.

Special assistance to States

	1964 estimate	1965 estimate	Increase or decrease
Epidemic services	$737,000	$887,700	+$150,700

The Communicable Disease Center provides epidemiological services in three major areas. These include surveillance, epidemic aid, and field evaluation of control techniques. Surveillance and epidemic aid are services to the States which have increasingly demonstrated their basic value in disease control. Evaluation, including consultation and testing, of immunizing and preventive agents is also an extensive and important activity as demonstrated by the Center's participation in the recent measles vaccine development program.

Disease intelligence on a current, accurate basis is fundamental to the development and execution of effective control programs. As a keystone to disease control, the surveillance activities document the occurrence and patterns of disease, and thus help to ascertain the methods of spread and to determine the best approaches to their control. The data received from a variety of sources reflect unusual trends in diseases, or concentrations of cases which signal immediate inquiry and special field studies, as appropriate.

The importance of the ability to respond rapidly and effectively is illustrated by the Center's recent investigations of outbreaks of Salmonella. A telephone call from one State reporting 13 isolates of *Salmonella hartford* (a very rare type) triggered a series of events that led to the elucidation of a major outbreak involving 18 States. The recently established Salmonella surveillance program quickly relayed information to other States, in turn learning of other scattered isolates. Epidemiologists were put in the field to investigate cases and attempt to find the source of infection. Although no common source of infection was found, the techniques perfected in this investigation aided in the solving of the *Salmonella derby* epidemic in Philadelphia and New York City where some 601 patients in hospitals developed a life-threatening diarrheal disease. This epidemic was traced to contaminated eggs and warnings were issued against utilization of "checked" or cracked eggs, thereby preventing further outbreaks. In the 16-week period of investigation, this took 321 man-days in the field.

It is expected that more than 500 epidemiological consultations and laboratory supported field investigations of particular disease problems will be provided in 1964 in response to formal aid requests. This trend of increased demand for epidemic services will unquestionably continue in 1965. Surveillance and consultative activities associated with use of live virus polio vaccine, poliolike diseases, institutionally acquired infections, hepatitis, encephalitis, and other diseases of major public health importance will be maintained and improved in 1965.

The shortage of competent epidemiological personnel, the growing confidence in the Communicable Disease Center's surveillance activities, the increasing demand for and dependence upon the Communicable Disease Center's epidemic aid has created a critical need for additional well-trained epidemiologists. Many States are unable to provide a minimum epidemiological staff. The Communicable Disease Center has developed an increasing ability to embrace more comprehensive training in the 2-year Epidemic Intelligence Service program. The Center has also been eminently successful in both recruitment of highly qualified personnel for training and in the retention rate in public health after their completion of the Epidemic Intelligence Service program. These officers assume greater responsibilities not only in the Service but throughout the country. Two State health officers received their initial public health training and experience in the Epidemic Intelligence Service. Many requests for 2-year assignments of Epidemic Intelligence Service officers in 1964 were received which could not be filled.

The increase of $150,000 includes $120,200 and eight positions for program expansion to help meet the growing demand for epidemic assistance and strengthen the surveillance structure by the addition of eight officers to the Epidemic Intelligence Service program, and $30,500 for built-in items including the pro rata share of the Bureau of State Services management fund.

	1964 estimate	1965 estimate	Increase or decrease
National laboratory improvement and reference services	$3,273,300	$3,547,100	+$273,800

As the national laboratory improvement program, which has been enthusiastically accepted by the State public health laboratory directors, reaches full operational strength, 1965 will bring increased program accomplishment in the five areas where the State public health laboratories in conjunction with the Communicable Disease Center, must work diligently to better safeguard the health of the people.

1. *Standardization of diagnostic test procedures.*—During 1963 and 1964, efforts in this area have resulted in the development of a standard complement fixation diagnostic test that has been adopted by a majority of State laboratories. The availability of this standard test has eliminated the problems created through the use of several different complement fixing techniques. The fluorescent antibody diagnostic technique has been utilized to develop a rapid test for the detection of typhoid carriers and to follow the carrier state in a group of approximately 200 schoolchildren following an outbreak of diphtheria in the school which they attended. Standard test procedures applicable to laboratory diagnosis, enteric bacteria, and virus isolation are planned for 1965.

2. *Evaluation of accuracy of test results within and between diagnostic laboratories.*—One of the most effective methods for determining accuracy of diagnosis in laboratories throughout the country is to send check specimens possessing measured quantities of known agents for routine diagnosis in these laboratories. Test specimens of 21 known agents or sera have been sent to various State and territorial public health laboratories throughout the country by the Communicable Disease Center for purposes of evaluating diagnostic accuracy. During 1964, these agents or sera are being increased to 29, to include 8 additional bacterial and viral agents. In 1965, participation in the program is expected to include Public Health Service hospitals anl large city laboratories.

3. *Laboratory consultation and review.*—Program reviews in both administrative and technical areas were conducted in seven States, the District of Columbia, and one large city-county laboratory during 1963. Reviews of technical areas only were conducted in eight additional States and Puerto Rico. Problem areas pointed up by these reviews have resulted in additional requests for assistance in implementing corrective action. Successful recruitment of qualified personnel in administrative and technical consultation has provided the depth necessary to carry out program reviews and evaluations as requests are received. In 1964, 10 complete reviews and 12 reviews in technical areas are planned. It is expected that personnel will provide this service to approximately 35 State laboratories during 1965.

4. *Reference diagnostic activities.*—During 1964, the Communicable Disease Center will publish standards for the preparation of certain commonly used biological reagents. This is the primary step toward standardizing reagents, which will greatly enhance the work being done to improve diagnosis of disease through laboratory examination. As competencies in the State public health laboratories are improved, only those specimens requiring study by specialty laboratories will be forwarded to the Communicable Disease Center since the States will be able to provide a much more comprehensive service to the practicing physician.

5. *Laboratory training.*—In 1964, three new courses, viz., central laboratory services, basic instrumentation, and basic spectrophotometry, have been developed and are scheduled for periodic presentation on a continuing basis. This represents the initial phase for the revision of the total training program into more narrow presentations given in greater depth to meet current training needs. Programed instruction methods are being utilized in training laboratory personnel. In 1965, additional courses will be developed and programed to meet needs uncovered through the various laboratory evaluation studies. Training aids of this type will prove invaluable to States in carrying out their intra-State training programs.

In addition to the five areas previously discussed, program effort will be initiated in 1964 and continued in 1965 covering the general areas of hematology, cytology, and clinical chemistry. The prime objective of this program is to aid continued improvement in the Nation's health by providing service to the State public health laboratories which will meet the needs for consultation; training; developing and adoption of standard methods; and evaluation of technical equipment and reference services in biochemical, hematological, and cytological laboratory procedures of public health magnitude. Program development should be such that these services will be a routine part of the total laboratory improvement program during 1965.

In 1965, direct assistance in intra-State evaluation programs will be provided through training aids, instruction and consultation, and by serving as the "referee" for the participating laboratories within a State. Through this mechanism it is felt that increased competency will be more rapidly developed at the local diagnostic laboratory level.

The increase of $273,800 represents built-in costs. There is no change in program level.

	1964 estimate	1965 estimate	Increase or decrease
Training of public health workers	$982,200	$1,039,000	+$56,800

During 1964 and continuing in 1965, the training program is being modified to include broader planning and cooperation with medical schools, professional groups, and persons with responsibilities for continuing education to their employees or members. Particular attention will be given to developing new techniques for the rapid transmission of new information to all members of the practicing health professions who have direct responsibility for furnishing health services to individuals. The program will be carried into the field at places and times which will make it easier for health practitioners to attend.

In an effort to begin reaching all the heterogeneous health groups, including practicing physicians, effective current teaching methods—seminars, symposia, programed instruction, refresher training, and the hypothetical community—must be used and new techniques developed. Programed instruction offers a relatively new technique for transmitting information clearly and rapidly. This method will be expanded and adapted to approximately 24 hours of lesson material in 1965. Also, case studies based on a hypothetical community have been developed. This training technique, a command-post type of training, is very similar to current management games. Four problem-solving versions of these health games will be offered to health practitioners.

As in 1964, 100 refresher courses, 30 seminars, and 4 regional symposia are planned for 1965. The training courses will cover the gamut of health problems and will be offered both at headquarters and within the 50 States. The 1-day seminars will be cosponsored by State professional associations and carried directly to the practicing physicians. The disease oriented symposia, on problems of special interest, will be open to all health practitioners, including those in universities, hospitals, or private practice. The Center will provide nationally recognized authorities to give the formal presentations and will arrange for discussion and questions. Each symposium will then be followed immediately by a special meeting of the Center staff with State and local health authorities and the medical society representatives for the express purpose of developing and organizing realistic plans for maximum utilization of the information received.

Training activities during 1965 will be oriented toward the ultimate goal of insuring that all of the more than 2 million health workers are acquiring and maintaining the highest attainable level of professional competence and comprehension.

The increase of $56,800 represents built-in costs. There is no change in program level.

	1964 estimate	1965 estimate	Increase or decrease
Medical audiovisual services	$714,825	$801,200	+$86,375

Two of our human senses, seeing and hearing, may be utilized separately or collectively in the learning process. When these two senses are combined and attention focused on a specific subject, the accomplishments in the learning process is of great significance. For this reason, motion pictures, film strips, and other visual and audiovisual aids are used as teaching resources in academic institutions, Federal, State, and local health agencies, and other interested groups.

A substantial increase in utilization of communicable disease center films has occurred with more than 2½ million persons of the medical and health professions viewing them in 1963. This increased demand for medical audiovisuals by health workers will continue.

Utilizing funds provided by Congress in 1964 for initiation of an international exchange of medical motion pictures, the cataloging of all available medical-health films in this country and abroad is being started. Films for review and selection will be solicited from medical and health associations, corporations, universities and colleges, religious groups, Federal, State, and local governments, and private individuals. A panel of experts will establish guidelines for reviewing, qualitatively analyzing, selecting, and establishing priorities for films to be included in the program.

In addition, areas suitable for distribution will be selected based on health needs. Colombia, South America, has already been chosen for a special concentrated effort. Films will be translated into the appropriate languages, and pictorial content adapted for use in this area. Prints of each film will be made and distributed from focal points in the area in sufficient quantities to meet the needs of the program. Supporting instructor guides, outlines, and student instructional material will also be developed for distribution with the film print.

In 1965, approximately 10 additional films will be translated, pictorially adapted, and scored with appropriate foreign language tracks. The first operational phase of the program will continue and expand all activities initiated in 1964. All efforts will be made to help meet the most critical areas in biomedical audiovisual resources. In this connection, two or three carefully selected prototype films will be produced for utilization both here and abroad. To further support this program, a repository of medical stock film footage and still photography will be developed. This material will be utilized in adapting existing films for foreign use and in the production of new film subjects.

The increase of $86,375 includes $71,875 and five positions to permit the abovementioned expansion of the international film exchange program, and $14,500 for built-in items including the pro rata share of the Bureau of State Services management fund.

	1964 estimate	1965 estimate	Increase or decrease
Communicable disease control demonstrations, consultations, and investigations	$908,600	$932,400	+$23,800

Effective control of communicable diseases depends upon the application of existing knowledge and of new techniques derived from research and field experience. Control is best effected when it is coordinated with the public health resources of a community into a comprehensive program, supported by an informed public. Demonstration programs limited to vector control were conducted by the center in 18 communities in the past 11 years. These programs conducted in cooperation with State and local departments of health, have now been broadened to include effective methods for measurement of community health problems and resources, effective techniques for motivation of citizen participation, and assistance in developing model communicable disease control practices.

Five comprehensive communicable disease control demonstrations are being conducted in representative cities in Alabama, Arizona, Colorado, Oklahoma, and Pennsylvania in cooperation with State and local departments of health. The projects, following surveys which delineate health problems and community deficiencies which contribute to prevalence of disease, demonstrate proved methodology and new techniques for controlling communicable diseases. Programs are adjusted to local problems. Resources of the center are utilized in developing programs and assuring application of current knowledge for control of diphtheria, tetanus, typhoid, pertussis, poliomyelitis, tuberculosis, venereal diseases, vector-borne diseases, and other communicable diseases. During the conduct of the vector control demonstrations by the center in the past, more than 200 satellite communities initiated control programs patterned after those developed in 18 demonstration communities. Training courses in community communicable disease control techniques for public health workers are now conducted and assistance is being provided in the establishment of satellite programs from the comprehensive demonstration areas.

The ultimate goal of the communicable disease control demonstrations is the establishment of adequate, active programs for prevention and control of communicable diseases throughout the country. As effective State programs are developed, and as local and State competence is acquired, project personnel are transferred to other States where new projects are established, thus assuring continued application of effective and comprehensive communicable disease control techniques. In 1965, satellite activities from the older projects will be undertaken.

The increase of $23,800 represents built-in items. There is no change in program level.

	1964 estimate	1965 estimate	Increase or decrease
Community immunization services	$896, 900	$898, 400	+$1, 500

Working under a condensed time schedule, successful achievement of the goals of the Vaccination Assistance Act will depend upon:

1. The integration of individual State and community efforts into a coordinated nationwide effort to improve levels of immunization against polio, diphtheria, whooping cough, and tetanus.
2. The development and evaluation of new or improved techniques of immunology, community organization, and surveillance.
3. Rapid application of both accepted practices and new or improved methods of operation in the States and communities.
4. Nationwide surveillance of not only the diseases but immune status in order to keep abreast of the development of national and regional disease trends.

Late in 1963 under the Supplemental Appropriations Act, Congress allowed funds to permit staffing and training of personnel to provide program direction and administration for the grant program. During May and June key staff members were recruited, the program became an organizational entity, basic policies and procedures were established, and the mechanisms for project grant receipt, review, and approval were set in motion. Trips were made to various States and regions to acquaint members of the field organization and State health officials with the program and to establish lines of communication. At a 3-week orientation and training course held during the latter part of June, headquarters and field personnel received training in all aspects of the program, including such areas as: community organization, conduct of promotion campaigns, disease characteristics, survey techniques, and principles of immunology.

With funds available in 1964, this activity will achieve full operational strength. During 1964 the training program is expanding and a series of professional educational seminars are planned. Under the training program approximately ten 2-day orientation and training courses will be given to project grant employees, with a weeklong program planned for February covering the whole range of community planning, organization, promotion, and immunization principles and practices. In addition, four courses on design, conduct, and use of surveys will be conducted in strategic cities across the Nation with the course content tailored to the specific characteristics of the locale. To meet the more general need for the transmission of current knowledge on immunology and disease trends, approximately 20 seminars dealing with immunization principles and practices will be presented at meetings of the American Public Health Association, Academy of General Practice, and the Academy of Pediatrics. These training courses and seminars will provide an effective means of insuring rapid application of the latest techniques to the job of getting the population adequately immunized.

Laboratory studies will be conducted to determine the effect, under field conditions, that the recently developed measles vaccines have upon the "take" of diphtheria, whooping cough, tetanus, and attenuated live-virus polio vaccines when the different vaccines are administered at close time intervals. And, nationwide surveillance of the four diseases and of immunization levels will be augmented in order to measure program progress and to keep abreast of disease trends.

Continual analysis and evaluation of new or different approaches to the problem of meeting community immunization needs is an integral part of the immunization activities. From its central vantage point the Center has the benefit of assessing the merits of a variety of methods of operation and is in a position to provide advice and assistance to States in the development of effective vaccination programs.

In 1965 the same level of funding is requested to permit continuation of the full-scale operations achieved in 1964. Program evaluation will be continued to pinpoint specific problem areas as well as to identify nationwide trends. Research efforts will be directed toward the development of the more effective methodology for immunizing "hard to reach" groups. The training program will be continued with more emphasis on the elimination of unvaccinated pockets in communities and the strengthening of ongoing maintenance programs.

The increase of $1,500 represents built-in items. There is no change in program level.

Aedes aegypti eradication

	1964 estimate		1965 estimate		Increase or decrease	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	164	$441, 000	226	$1, 711, 800	+62	+$1, 270, 800
Other expenses		2, 559, 000		4, 177, 200		+1, 618, 200
Total	164	3, 000, 000	226	5, 889, 000	+62	+2, 889, 000

On October 13, 1961, the Directing Council of the Pan American Sanitary Bureau passed a resolution recommending that all member nations still infested with *Aedes aegypti* take steps to accomplish eradication of the mosquito by 1966. A similar resolution was passed by the Council on September 2, 1962. These actions were the culmination of more than a decade of concern in the Americas over the continuing threat of yellow fever. During that period, 13 countries and 3 territories achieved eradication. The United States, a party to the above resolution, constitutes a major source of possible reinfestation of Latin America.

That yellow fever has not been present in the United States since 1907 does not mean that this country can be complacent. In July 1963 dengue fever (a virus disease transmitted by the *Aedes aegypti*) developed in a traveler from Jamaica. This illness occurred in an area infested with *Aedes aegypti.* While no transmission occurred this time, this illustrates the potential for introduction of yellow fever.

An appropriation of $3 million in 1964 was made to initiate an eradication program in the United States. Consideration in developing the program was the knowledge of the elimination of *Aedes aegypti* in many areas of the United States during the past quarter century. Though the relative significance of many contributing factors which have brought about the decrease in the density and distribution of the species is not known, there is substantial evidence that the mosquito may no longer sustain or perpetuate itself when its population is reduced to a low level. Therefore, the eradication program will be initiated in cooperation with State and local departments of health in some 69 heavily infested metropolitan and transportation centers which constitute the greatest foci of *Aedes aegypti* and provide the greatest potential for dissemination of the species.

The overall program will emphasize the necessity of obtaining total community participation in the conduct of intensive cleanup and source reduction programs to facilitate the following operations phases: (1) surveys during the breeding season by trained inspectors to determine infestations; (2) spraying of infested and adjacent areas with DDT where there is no known resistance to this insecticide, followed by inspections and treatments until eradication is achieved; (3) research to maintain a constant check on the susceptibility of *Aedes aegypti* to DDT and to investigate alternative procedures of control; (4) establishment of a regulation to prevent indiscriminate dispersal of *Aedes aegypti* by research laboratories; (5) public information activities to obtain cooperation of local governments and property owners in the elimination of mosquito-production sources; and (6) continued surveillance in eradicated areas to assure prevention of reinfestation.

During 1964, contracts will be negotiated with Texas, Florida, Puerto Rico, and the Virgin Islands which will permit the initiation of *Aedes aegypti* eradication programs in 29 of the 69 highly infested metropolitan centers. The increase in 1965 is required:

1. To continue a year-round activity of insecticidal spraying, comprehensive inspections, and source-reduction in areas in which programs were initiated in 1964. Additional operational areas will be established in adjacent counties.
2. To conduct extensive surveys to delineate the scope of the problem throughout these and the remaining States in the yellow fever receptive

areas—Alabama, Arkansas, Georgia, Louisiana, Mississippi, North Carolina, and Tennessee.

3. To negotiate contracts with the latter States. Skeleton forces of State and local personnel will be recruited and trained.
4. To initiate inspection and treatment programs in areas adjacent to heavily infested areas.

Extensive efforts will be continued to further integrate eradication activities into operating programs of State and local departments of health in order to obtain maximum assistance. Promotional programs to obtain cooperation of individual citizens and voluntary agencies in a program of source-reduction will be intensified.

Standards will be developed for the regulation of laboratories currently utilizing *Aedes aegypti* for experimental purposes. Such standards will be designed to eliminate any possibility of reinfestation from these sources. The continuation of the present program, together with the expansion of activities, should result in substantial reduction of *Aedes aegypti* infestation in all areas with possible eradication in some by the end of 1965.

A major portion of the increase is required to permit negotiation of contracts with States whereby they will employ operational personnel. The additional number of Federal positions is required to administer and direct the expanded program. Thus, the increase will permit the intensive and orderly conduct of the program in as economical and practical a manner as possible to eradicate *Aedes aegypti.*

The Public Health Service costs for the eradication program are estimated as follows:

1964	$3,000,000
1965	5,889,000
1966	14,600,000
1967	$14,700,000
1968	12,200,000

The increase of $2,889,000 includes $2,189,000 and 62 positions for the second phase of the *Aedes aegypti* eradication program and $700,000 for built-in items.

New positions requested, fiscal year 1965

	Grade	Number requested	Annual salary
Research, training, and technical services:			
Public health program specialist	GS-11	1	$8,424
Medical and scientific illustrator	GS-9	1	7,030
Medical and scientific illustrator	GS-7	1	5,803
Research technician	GS-5	4	18,804
Clerical assistant	GS-4	1	4,222
Laboratory technician	GS-4	1	4,222
Clerical assistant	GS-3	1	3,890
Research technician	GS-3	4	15,560
Commissioned officers:			
Full grade		4	37,428
Senior assistant grade		5	38,064
Total		23	143,447
Aedes aegypti eradication:			
Public health program specialist	GS-13	7	82,117
Engineer	GS-12	1	9,984
Public health program specialist	GS-12	1	9,984
Scientist	GS-12	1	9,984
Administrative officer	GS-11	5	42,120
Information specialist	GS-11	2	16,848
Public health program specialist	GS-11	4	33,696
Statistician	GS-11	1	8,424
Research technician	GS-7	2	11,606
Financial operations assistant	GS-5	1	4,701
Research assistant	GS-5	1	4,701
Statistician	GS-5	1	4,701
Clerical assistant	GS-4	12	50,664
Clerical assistant	GS-3	3	11,670
Commissioned officers:			
Director grade		8	90,720
Senior grade		2	18,840
Full grade		2	15,840
Senior assistant grade		4	26,160
Ungraded positions: Laborer		4	22,964
Total		62	475,724
Total new positions, all activities		85	619,171

AFTERNOON SESSION

COMMUNITY HEALTH PRACTICE AND RESEARCH

WITNESSES

DR. ANDREW P. SACKETT, CHIEF, DIVISION OF COMMUNITY HEALTH SERVICES, PUBLIC HEALTH SERVICE

DR. AARON W. CHRISTENSEN, DEPUTY CHIEF, BUREAU OF STATE SERVICES

SAUL R. ROSOFF, EXECUTIVE OFFICER, DIVISION OF COMMUNITY HEALTH SERVICES

JOHN W. HAMBLETON, FINANCIAL MANAGEMENT OFFICER FOR COMMUNITY HEALTH PROGRAMS

DR. LUTHER L. TERRY, SURGEON GENERAL

HARRY L. DORAN, CHIEF FINANCE OFFICER

JAMES F. KELLY, DEPARTMENT BUDGET OFFICER

Object classification

[In thousands of dollars]

		1963 actual	1964 estimate	1965 estimate
11	Personnel compensation:			
	Permanent positions	1,959	2,162	2,268
	Positions other than permanent	41	57	54
	Other personnel compensation	3	14	8
	Total personnel compensation	2,003	2,233	2,330
12	Personnel benefits	218	262	268
21	Travel and transportation of persons	241	243	234
22	Transportation of things	17	16	13
23	Rent, communications, and utilities	75	65	67
24	Printing and reproduction	30	35	25
25	Other services	235	185	156
	Services of other agencies	0	17	17
	Research contracts	62	70	94
	Payment to—			
	Bureau of State Services management fund	86	147	158
	National Institutes of Health management fund	32	37	37
26	Supplies and materials	42	40	41
31	Equipment	59	33	24
41	Grants, subsidies, and contributions	25,065	26,307	19,180
	Total obligations	28,166	29,690	22,644

Personnel summary

	1963 actual	1964 estimate	1965 estimate
Total number of permanent positions	321	291	291
Full-time equivalent of other positions	7	10	10
Average number of all employees	275	280	287
Employees in permanent positions, end of year	273	285	285
Employees in other positions, end of year	75	28	28
Average GS grade	7.4	7.6	7.6
Average GS salary	$6,897	$7,317	$7,321

Program and financing

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
Program by activities:			
1. Grants:			
(*a*) Research	1,641	2,752	2,720
(*b*) Formula grants to States (general health)	14,910	14,000	10,000
(*c*) Training	7,798	8,095	4,000
(*d*) Migrant health services	750	1,500	2,500
2. Research, training, and technical services	2,811	3,343	3,424
Total program costs, funded [1]	27,910	29,690	22,644
Change in selected resources [2]	256		
Total obligations	28,166	29,690	22,644
Financing:			
Comparative transfers from other accounts	−1,697	−18	
Unobligated balance lapsing	238		
New obligational authority	26,706	29,672	22,644
New obligational authority:			
Appropriation	26,526	29,608	22,644
Transferred from "Salaries and expenses, Office of Surgeon General" (42 U.S.C. 226)	187		
Transferred to—			
"Salaries and expenses, Office of the Surgeon General" (42 (U.S.C. 226)		−3	
Operating expenses, Public Buildings Service," General Services Administration (76 Stat. 728)	−6		
Appropriation (adjusted)	26,706	29,605	22,644
Proposed transfer from "National Heart Institute" due to Uniformed Services Act of 1963		67	

[1] Includes capital outlay as follows: 1963, $41,000; 1964, $23,000; 1965, $24,000.

[2] Selected resources as of June 30 are as follows: Unpaid undelivered orders, 1962, $34,000 (1963 adjustments, −$3,000); 1963, $287,000; 1964, $287,000; 1965, $287,000.

Mr. Fogarty. The committee will come to order. We now have community health practice and research.

Are you ready to justify this, Dr. Sackett?

Dr. Sackett. Yes, sir.

Mr. Fogarty. Go ahead.

General Statement

Dr. Sackett. Mr. Chairman and members of the committee, new scientific and technological discoveries continue to place a heavy strain upon existing patterns of health services. These developments together with such factors as urbanization and booming population have made existing services inadequate in scope and quantity. The organizations providing these services operate with insufficient liaison and coordination of effort. Thus, we have a patchwork of services with overlap in some areas and gaps in others.

Even when services are available, they are frequently not utilized, due to legal, fiscal, or procedural barriers. In working toward solving some of these problems, the Division of Community Health Services is directing its efforts toward improving organization for the effective delivery of services, closing the gap between the development of new health knowledge and its application by the practitioner, and development and dissemination of information on the costs and ways of financing health services.

One critical area in which we have been able to make a good start is to assist a community in improving provision of health services for domestic agricultural migrants and their families. The new program of project grants for this purpose was authorized in 1963. To date we have been able to start 39 projects in 22 States. The communities involved are using a variety of imaginative approaches to bring health services to migrant workers including night clinics, provision of dental care at locations available to the migrants, and a mobile health clinic. In 1965 we are requesting the full authorization of $3 million to permit the extension of these health services to additional migrants.

Another area of special concern for which we have requested an increase in 1965 is the development of a supply of research investigators in the fields of medical care, health economics, and health communications research.

This will enable us to draw potentially outstanding investigators from the ranks of experienced health services personnel and to provide them with the necessary training in research methodology.

We are also requesting an increase in the field of health communications. A number of interested groups are testing a variety of means of providing information to physicians.

There is a great need for evaluation of these education methods as to effectiveness for doing the job. Activities will include evaluation of programs utilizing open-circuit television, classroom instruction, or programed learning as a means of keeping physicians up to date. This effort is a necessity if the practitioner is to apply the steady flow of research findings in actually preventing and managing health problems.

In summary, our program efforts, for which a 1965 estimate of $22,644,000 is requested, are directed toward providing improved health care to all people in the community by promoting the development of adequate health services and by assuring the appropriate and most efficient use of existing resources.

Mr. Chairman, I shall be glad to answer any questions about this program and the budget request.

Mr. FOGARTY. All right, Doctor.

TRAINING GRANTS

The appropriation for 1964 is $29,608,000 and the request for 1965 is $22,644,000, which shows a decrease of $6,964,000.

The largest decrease is $4,195,000 for training grants. This is more than a 50-percent reduction, isn't it?

Dr. SACKETT. Yes, sir. That amount represents the part of the program authorized by section 306 of the Public Health Service Act, which expires June 30, 1964. We have developed a legislative request for continuation of this program.

Mr. FOGARTY. What is it?

Mr. HAMBLETON. The amount? $4.5 million.

Dr. SACKETT. The amount will be $4.5 million.

Dr. CHRISTENSEN. It has gone forward to the Speaker.

Mr. Kelly. The figures, I gave on the overall budget, anticipated the submission of a proposal to continue the training grant program and the enactment of this legislation.

REDUCTION IN FORMULA GRANTS TO STATES

Mr. Fogarty. There is a cut from $14 million to $10 million in the formula grants to States for general health activities. This committee has not given this very high priority so long as proper Federal support is given in specific disease categories. But are there increases in those categories sufficient to counterbalance this cut?

Mr. Kelly. No, sir.

Mr. Fogarty. There are not?

Mr. Kelly. No, sir.

Mr. Fogarty. What will the States say when they find out you have cut these appropriations $4 million?

Mr. Kelly. Well, sir——

Dr. Sackett. The States—and we agree with them—feel that this is a very valuable grant program.

Mr. Fogarty. This cut is more than Congress ever cut this program.

Dr. Sackett. Yes, sir.

This program cannot be entirely replaced by categorical programs. There are differences that exist in health problems from one State to another, and they seem to require the availability of a mechanism that would allow the State health officer to design programs to meet the peculiar health problems of his State. This has been one of the great virtues and advantages of this program.

Mr. Fogarty. There have been times when the funds were sent to these States for specific purposes and they were not used for these purposes at all. They were used for some purpose that someone in the State might have been working on for years and had a special interest in. That is why we would not allow the Department to merge such appropriations as "Tuberculosis" and "Venereal disease" into a general overall appropriation.

Dr. Sackett. As you say, the quality of programs in States differs somewhat. I have considerable respect for the quality of program supervision that exists. Some of the States are truly outstanding in this respect.

The general health formula grants are a valuable source of support of local health services in such areas as communicable disease control, nursing, home care consultation, and many other basic health services.

At the State level, it is a valuable source of support for laboratory service, and epidemiologic activities which again, as you know, are very essential for disease control activities. It is used in some States for accident prevention programs and support of nutrition activities. It is used to support labor camp inspections, for supporting migrant labor programs at the State level.

It is used for supporting training at the State and local level. And this is just a partial list of the things for which it is used in the States.

ADMINISTRATIVE IMPROVEMENT OF STATE GRANT PROGRAMS

Dr. Christensen. Mr. Fogarty, I would like to mention if I may, sir, as you know, last year we did a study with the fiscal officers, State health officers, and program representatives in terms of looking at our formula grant programs, in terms of how could we get better utilization out of the Federal money that was going into these programs.

As a result of this study, there were about 16, I believe, recommendations that were adopted by the study group. These in turn were adopted by the Association of State and Territorial Health Officers. As I mentioned, these recommendations generally are for the tightening up of the administration of the formula grants.

To give you an example, one of the recommendations dealt with calling together a group of experts in the field in terms of developing the program priorities of a given program. Then we in turn: that is, our regional offices, when they reviewed the State plan, would be reviewing the plan against these priorities.

The second thing that we have done or are in the process of doing is to revise the format of our State plan which will result in more specificity, as far as expenditure of funds and the goals for the program are concerned.

And I think the third major thing we have done that will tend to increase our surveillance of the activities is to require approval from our regional offices when the States budget for additional amounts of money in different activities than they originally had planned to do. I think this in turn will go a long way toward giving us much better surveillance and much better control and much better utilization of the Federal dollar. This will result, I believe, in better programs.

REDUCTION IN RESEARCH GRANTS

Mr. Fogarty. But here again it seems to me from your justification—and this is not the first place this has happened, this happened all the way through the public health budget this year—you are phasing out the research grant program.

The table on page 134 shows you plan to support fewer projects in 1965 than in 1964; is that not right?

Dr. Sackett. Sir, we supported 47 projects this year. In fiscal year 1965, we are requesting funds to support 46 projects—a decrease of 1.

Mr. Fogarty. If it is 1 or 100, it is a decrease, is it not?

Dr. Sackett. Yes, sir.

Mr. Fogarty. With regard to new grants, you are practically going out of business?

Dr. Sackett. We will support five new grants next year.

Mr. Fogarty. As compared to 20 in 1964?

Dr. Sackett. As compared to 20; yes, sir.

Mr. Fogarty. That is about the biggest cut we have seen in public health so far.

That was not your original proposal, was it, to go from 20 down to 5?

Dr. Sackett. No, sir; our original request was for approximately $3.3 million.

Mr. Fogarty. How many would that support?

Dr. Sackett. An additional 10 to 15 new projects.

Mr. Fogarty. Do you still think those additional projects you wanted to finance are worth while?

Dr. Sackett. Yes, sir.

Mr. Fogarty. Will you supply for the record a list of all of these projects and why you think they were needed and are still needed? And the amounts of money.

Dr. Sackett. Yes, sir.

(The document referred to follows:)

The additional funds requested for research grants would have enabled us to support about 15 new research projects.

A continuing effort is required to identify new approaches to the solution of community health problems. Research of the type supported by this program is a necessity if we are to assist the community to utilize all available or potential resources to meet the health needs of the people. Research grants are particularly valuable in that they permit us to draw on the capabilities of the total scientific community.

Research projects currently supported by this program deal with problems related to health economics and the costs of medical care, the health needs of particular population groups, and the special adaptations in services required to meet those needs (for example, communities of Spanish-Americans, those where aged, retired persons are prominent and migrant populations), investigation of factors affecting the acceptance and use of health and medical care services. Additional areas of badly needed research would have been emphasized if additional funds were available, including:

1. Problems in evaluating the quality and effectiveness of medical care;
2. Organization of community health services;
3. Adaptation of governmental and intergovernmental structures to metropolitan health services requirements and coordination of planning for health services with planning for other community needs;
4. Roles and relationships of resources within the community, their coordination and utilization (through a variety of mechanisms) for the provision of a continuous range of health services;
5. Methods of health education and communication of new information to both the public and the health professions.

GRANTS FOR MIGRANT HEALTH SERVICES

Mr. Fogarty. Now, you do have an increase of $1 million in grants for migrant health services, I think that is good.

What States receive the bulk of the grants under this program?

Dr. Sackett. Sir, we have funded 39 projects in 22 States. The States that have received the grants, I am pleased to note, are the States which have the principal problem along the three lines of migration.

Mr. Fogarty. Where are they?

Dr. Sackett. One on the west coast, one in the Central States, and one originating in Florida, Georgia, and moving up the east coast.

As I say, there are 22 States in which projects are being supported.

Mr. Fogarty. Well, we will put those in the record.

(The information referred to follows:)

States Which Have Received Migrant Health Project Grants

Arizona
Arkansas
California
Colorado
Florida
Indiana
Iowa
Kansas
Maryland
Michigan
Minnesota
New Jersey
New Mexico
New York
North Carolina
Ohio
Oregon
Pennsylvania
South Carolina
Texas
Virginia
Washington

Mr. FOGARTY. What contribution does the State make?

Dr. SACKETT. Sir, we have been very encouraged and pleased with the response of local communities and States in this program. As you know, there is no matching requirement and yet the local or State contributions have exceeded 40 percent of the total cost of these projects.

Mr. FOGARTY. Just give us an example of what you are doing in a State now. You talked about dental services and medical services, how do you get dental services to these workers and their children? You take care of the children, also?

Dr. SACKETT. Yes, sir, there are a number of good examples of the kinds of projects that as you know are focused on the provision of service in family clinic organizations. We have, for example, a project in southwest Texas sponsored by the southwestern Texas health department. Three part-time family health service clinics have been established. As part of the project, dental hygiene services are provided to each of the three clinics and referrals made to regular health department dental clinics or to private dentists.

Mr. FOGARTY. What part do you play in that?

Dr. SACKETT. Well, we function through our small headquarters staff. We also have representation in eight of the regional offices. We meet with people who are interested in developing a program, assist them and advise them in the application for a grant and in setting up the program. And then we receive the grant and process it.

Mr. FOGARTY. Do you make available personnel, doctors and dentists?

Dr. SACKETT. Well, we have not as yet loaned personnel directly to a project. This is possible in the sense that we have had requests to do this and have not been able to comply. However, it would be consistent with the program authority if we had a person who could be spared and assigned with a comparable reduction being made from the grant to reimburse us for his salary.

We have not as yet done this.

Mr. FOGARTY. The Mexican labor program expires at the end of this calendar year. Do you expect more work in the southwestern part of the country where many of these Mexicans are used now; especially Texas and California?

Dr. SACKETT. Yes; I would think the domestic farm labor force would have to take up, or make good the gap. Accordingly the numbers of persons involved would be increased and the program need would be greater.

Mr. FOGARTY. I am glad to see you are doing something along this line because we thought for a long time this was one of the most neglected groups in the country, in all ways, health, community acceptance, education, and everything else.

Dr. SACKETT. Thank you, sir.

Mr. FOGARTY. I believe they receive less attention than the Indians do; do they not? In the last 10 years at least we have been trying to do something for the Indian population in this country by building hospitals and schools, and training of personnel, nurses, and other things, but we have not been doing much in this field up to now.

Dr. SACKETT. Yes, sir.

Mr. FOGARTY. So I am pleased to see this $1 million increase in this area.

RESEARCH TRAINING GRANTS

You are requesting $100,000 for a research training grants program. The justifications indicate this would be a new program. Is that right? Or are you supporting some activity in 1964?

Dr. SACKETT. Sir, this is a new program. We have two applications which have been acted upon to the extent of receiving approval. And we have other applications that are either in hand or that we know are being developed. I think there are three such applications.

Mr. FOGARTY. Are you supporting anything in 1964?

Dr. SACKETT. Two projects have been approved.

Mr. FOGARTY. Have they been funded?

Dr. SACKETT. Not yet.

Mr. FOGARTY. Are they going to be funded?

Dr. SACKETT. We hope so, sir. The activities are very important.

Mr. FOGARTY. Which ones are they?

Dr. SACKETT. One is at the University of California in Berkeley, and one is at the University of Michigan.

Mr. FOGARTY. Why have you not funded them?

Dr. CHRISTENSEN. As was mentioned yesterday, as far as the research grants were concerned, at the time the 1964 budget was prepared, we did not have the authority to program or budget for research training grants except for nursing.

Mr. FOGARTY. And the dentists?

Dr. CHRISTENSEN. Well, the dentists also.

But these two projects which have been referred to us for funding. They were approved by the National Advisory Health Council at their June meeting of last year.

At the present time we do not have any way for funding these grants out of our 1964 funds. We have under consideration within the Bureau a proposal to see whether or not we could get permission to reprogram in order to fund these grants out of our 1964 funds.

Mr. FOGARTY. The more you talk about this, the more confusing it gets. I do not see that any reprograming is involved in this. Last year the Surgeon General told us that this was going to be done. The program was to do it.

Dr. CHRISTENSEN. We did not have the authority to budget for a research training grants program last year except in the two areas we just mentioned.

Mr. FOGARTY. When did you get the authority?

Dr. CHRISTENSEN. Well, we had the authority with the passage of the act establishing the new Institute of Child Health and Human Development. And this occurred after the time we had prepared our 1964 budget.

Mr. HAMBLETON. In October 1962.

Dr. CHRISTENSEN. This act became law October 17, 1962.

Mr. FOGARTY. There have been a lot of changes in budgets, since October of 1962 and you are still making changes. So that is not a very good excuse.

You show a sizable reduction overall in funds. Do you show any reduction in personnel?

Dr. SACKETT. No, sir.

Mr. FOGARTY. Anything else you want to say?

Dr. SACKETT. No, sir.

Mr. FOGARTY. How much would the two research training projects cost?

Mr. HAMBLETON. $168,000 for the first year, for both projects.

Dr. SACKETT. For both projects.

Mr. HAMBLETON. One project is $91,000 and the other is $77,000.

Mr. FOGARTY. How much have you budgeted for this?

Mr. HAMBLETON. $100,000.

Mr. FOGARTY. That is hardly enough for one decent project. Is it? Anything else you want to say while you have the chance?

Dr. SACKETT. No, sir.

Mr. FOGARTY. OK. Thank you.

JUSTIFICATION MATERIAL

(Following is the justification material submitted to the committee:)

COMMUNITY HEALTH PRACTICE AND RESEARCH

Amounts available for obligation

	1964	1965
Appropriation	$29,608,000	$22,644,000
Transferred to "Salaries and expenses, Office of the Surgeon General"	−3,000	
Comparative transfer from "Salaries and expenses, Office of the Surgeon General"	18,000	
Proposed transfer from "National Heart Institute"	67,000	
Total	29,690,000	22,644,000

Obligations by activities

Description	1964 estimate		1965 estimate		Increase or decrease	
	Positions	Amount	Positions	Amount	Positions	Amount
1. Grants:						
(a) Research		$2,752,000		$2,720,000		−$32,000
(b) Formula grants to States (general health)		14,000,000		10,000,000		−4,000,000
(c) Training		8,095,000		4,000,000		−4,095,000
(d) Migrant health services		1,500,000		2,500,000		+1,000,000
2. Research, training, and technical services	291	3,343,000	291	3,424,000		+81,000
(a) Medical care administration and health economics	79	1,028,000	79	1,058,000		+30,000
(b) Public health administration	79	863,000	79	887,000		+24,000
(c) Health communications	20	235,000	24	299,000	+4	+64,000
(d) Health services for migrant workers	45	500,000	45	500,000		
(e) Community health manpower operations and evaluation	28	274,000	24	227,000	−4	−47,000
(f) Program direction services for regional offices	40	443,000	40	453,000		+10,000
Total obligations	291	29,690,000	291	22,644,000		−7,046.000

Obligations by objects

		1964 estimate	1965 estimate	Increase (+) or decrease (−)
	Total number of permanent positions	291	291	
	Full-time equivalent of all other positions	10	10	
	Average number of all employees	280	287	+7
	Number of employees at end of year:			
	Permanent positions	285	285	
	Other	28	28	
11	Personnel compensation:			
	Permanent positions	$2, 162, 400	$2, 268, 400	+$106, 000
	Positions other than permanent	57, 000	54, 000	−3, 000
	Other personnel compensation	14, 000	8, 000	−6, 000
	Total personnel compensation	2, 233, 400	2, 330, 400	+97, 000
12	Personnel benefits	262, 000	268, 000	+6, 000
21	Travel and transportation of persons	243, 000	234, 000	−9, 000
22	Transportation of things	16, 000	13, 000	−3, 000
23	Rent, communications and utilities	65, 000	67, 000	+2, 000
24	Printing and reproduction	35, 000	25, 000	−10, 000
25	Other services	185, 000	156, 000	−29, 000
	Services of other agencies	17, 000	17, 000	
	Research contracts	70, 000	94, 000	+24, 000
	Payment to:			
	"Bureau of State Services management fund"	146, 600	157, 600	+11, 000
	"National Institutes of Health management fund"	37, 000	37, 000	
26	Supplies and materials	40, 000	41, 000	+1, 000
31	Equipment	33, 000	24, 000	−9, 000
41	Grants, subsidies and contributions	26, 307, 000	19, 180, 000	−7, 127, 000
	Total obligations by objects	29, 690, 000	22, 644, 000	−7, 046, 000

Summary of changes

1964 enacted appropriation	$29, 608, 000
Comparative transfers from other accounts	18, 000
Transferred to "Salaries and expenses, Office of Surgeon General"	−3, 000
Proposed transfer from "National Heart Institute"	67, 000
Total estimated obligations, 1964	29, 690, 000
1965 estimated obligations	22, 644, 000
Total change	−7, 046, 000

INCREASES

A. "Built in":	
1. Annualization of step two of civil service pay increase	44, 800
2. Annualization of uniformed services pay increase	22, 000
3. Annualization of 34 positions new in 1964	63, 000
4. Pro rata share of annualization of new positions for 1964 for Bureau of State Services management fund	3, 000
Subtotal, "built-in" increases	132, 800
B. Program increases:	
1. Increase in research training grants	100, 000
2. Increase in migrant health grants	1.000, 000
3. Expansion of health communications program (4 positions)	56, 200
4. Payment to "Bureau of State Services management fund"	2, 000
Subtotal, program increases	1.158, 200
Gross increases	1, 291, 000

C. Decreases:

1. Reduction in research grants	–$32,000
2. Reduction in formula grants to States (general health)	–4,000,000
3. Reduction in training grants	–4,195,000
4. Nonrecurring costs of national conference on public health training	–50,000
5. Nonrecurring program costs related to new positions in 1964	–11,000
6. Nonrecurring costs related to migrant health	–43,000
7. One less day's pay in 1965 (262 days in 1964; 261 days in 1965)	–6,000
Subtotal, decreases	–8,337,000
Total net change requested	–7,046,000

EXPLANATION OF CHANGES

Training grants.—An increase of $100,000 is requested for research training grants to train highly qualified persons in research methodology.

Migrant health grants.—An increase of $1 million is requested to pay part of the cost of establishing and operating service clinics and other special projects to improve health services and health conditions of domestic-agricultural migrant workers and their families.

Health communications.—An increase of $56,200 and four positions is requested for new work on continuing education for physicians and developing improved ways of translating new health knowledge into practice.

"Bureau of State Services management fund."—An increase of $2,000 is requested for the pro rata share of the Bureau of State Services management fund.

Research grants.—The request for $2,720,000, a reduction of $32,000 under 1964, will support estimated continuations and five new grants.

Formula grants to States (*general health*).—A reduction of $4 million is proposed in formula grants to States (general health) from $14 million in 1964 to $10 million in 1965.

Training grants.—A reduction of $4,195,000 in training grants is due to the expiration of section 306 of the Public Health Service Act on June 30, 1964, and is the subject of a legislative proposal in 1965.

National conference on public health training.—A decrease of $50,000 results from nonrecurring costs of public health training conference held in August 1963.

Migrant health.—A decrease of $43,000 results from nonrecurring program costs related to the migrant health program.

Explanation of transfers

	1964 estimate	1965 estimate	Purpose
Transfer to: "Salaries and expenses, Office of the Surgeon General."	–$3,000		Centralization of grants policy activities.
Transfer from: "National Heart Institute."	67,000		Proposed transfer due to Uniformed Services Pay Act of 1963.
Comparative transfer from: "Salaries and expenses, Office of the Surgeon General."	18,000		Decentralization of accounting point costs.

Community health practice and research

	Budget estimate to Congress	House allowance	Senate allowance	Appropriation
1955	17,665,500	13,000,000	13,000,000	13,000,000
1956	[1] 18,485,900	[2] 16,672,000	18,485,900	18,387,000
1957	15,316,000	[3] 14,276,000	17,591,000	17,591,000
1958	24,609,000	19,592,000	22,592,000	22,592,000
1959	[4] 23,845,000	22,750,000	27,480,000	23,639,000
1960	24,523,000	[5] 22,497,000	24,523,000	24,497,000
1961	27,847,000	[6] 22,777,000	27,847,000	27,277,000
1962	[7] 25,181,000	[8] 23,961,000	24,361,000	24,336,000
1963	28,533,000	26,276,000	26,776,000	26,526,000
1964	31,648,000	28,608,000	30,608,000	29,608,000
1965	22,644,000			

[1] Authority was requested to transfer $11,000 from other appropriations.
[2] Supplementals of $98,900 and $55,000 not considered by the House.
[3] Supplemental of $1,040,000 not considered by the House.
[4] Includes $315,000 civil defense activities not included in request to Bureau of the Budget under this appropriation title.
[5] Supplemental of $2,026,000 not considered by the House.
[6] Excludes $2,000,000 budget amendment and $3,070,000 supplemental not considered by the House.
[7] $4,075,000 of request sent to Congress under "Chronic diseases and health of the aged."
[8] Supplemental of $400,000 not considered by the House.

NOTE.—This appropriation was previously carried under "Assistance to States, general" from 1953 through 1961.

Research grants

1964 estimate	$2,752,000
1965 estimate	2,720,000
Increase or decrease	—32,000

Estimated grant requirements

	1964 estimate		1965 estimate		Increase (+) or decrease (—)	
	Number	Amount	Number	Amount	Number	Amount
1. Continuations:						
A. Noncompeting	26	$1,421,000	40	$2,200,000	+14	+$779,000
B. Competing	1	22,000	1	22,000		
2. Supplementals						
3. New grants	20	1,194,000	5	347,000	—15	—847,000
Subtotal	47	2,637,000	46	2,569,000	—1	—68,000
4. Increase in indirect costs:						
(*a*) To 20 percent [1]		115,000		113,000		—2,000
(*b*) To 25 percent [2]				38,000		+38,000
Total indirect costs		115,000		151,000		+36,000
5. Total	47	2,752,000	46	2,720,000	—1	—32,000

[1] Relates to all grants approved for support in 1964 and 1965.
[2] Relates to increase in indirect cost rate to 25 percent for grants awarded on or after Jan. 1, 1965.

Within recent years there has been a growing recognition that research oriented toward producing new knowledge of ways of providing more effective community health services is as essential to the final application and utilization of new biomedical advances as is the actual discovery of that knowledge. Currently, there is a great need for research designed to find better ways to provide and finance comprehensive community health services; to broaden the scope and improve the quality of these services; to eliminate both gaps and duplication in services; to devise the techniques for assessing and evaluating these services; and to inform the public of professionally recommended health practices. Research having as its goal the provision of more effective community health services has lagged greatly behind the more traditional bench and clinical research.

A major role of the programs included in this appropriation is to assist the community to utilize all available or potential resources to meet the health needs of the people. However, this role cannot be truly effective without a continuing effort to identify new approaches to the solution of community health problems. This effort calls for a research grants program which draws on the capabilities of the total scientific community. Thus research grants represent a tool which, in conjunction with the more traditional and direct techniques of technical assistance, consultation, and demonstrations, can be brought to bear on a wide variety of problems related to medical care, community organization, health economics, and public health administration.

The scientific skills needed to conduct this research are found in a wide variety of community settings. Schools of public health, departments of preventive or community medicine, State and local official and voluntary health agencies, group practice plans, and health-related agencies and foundations, offer particularly strategic opportunities to carry out research addressed to problems dealing with the planning, organization, provision, financing, use, and evaluation of community health programs.

The problems and questions requiring research in this area include the following: (1) Of what should health service programs consist to meet the community's needs? (2) What personnel resources are available and how should they be distributed to staff the programs; e.g., can lesser trained personnel free scarce personnel from certain jobs, so they may devote full time to their professional area? (3) What are the alternate forms of organization for rendering services; e.g.. how does the organizational location of a program affect its use by the community? (4) How do the methods and sources of financing influence the care provided or the acceptance and use of health services provided? (5) How do we get new findings from all the health fields to the health practitioner and to the public so they can take advantage of this new knowledge with the least possible timelag?

The $2.752.000 available for research grants in 1964 will be used for a variety of projects. The following are illustrative:

Evaluation of public health practices—University of Michigan.

Evaluation of public health programs for the aged—Florida State Board of Health.

The role of the family physician in the community—Institute of Community Studies.

Study of a new approach to medical care cost index—Palo Alto Medical Research Foundation.

The impact of public health work on productivity—Portland State College.

New methods of ambulatory patient care—University of Virginia.

In 1965 we plan to continue this support of extramural research in medical care administration, public health administration, health economics, and health communications.

Formula grants to States (general health)

1964 estimate	$14,000,000
1965 estimate	10,000,000
Decrease	−4,000,000

This grant provides for those program areas for which categorical grants are not available such as accident prevention, occupational health, dental health, environmental health, general sanitation and food protection, and vital statistics. It is also a basic source of financial support for services such as laboratory, health education, and nursing.

The flexibility which characterises the general health grant permits the States to program these funds into the development and support of new program activities for which there are no categorical grants and into the support of on-going, high priority activities of special health significance. In 1963, the States took advantage of the flexibility offered by this grant to initiate new health services or expand existing services. Approximately $2 million was identified for these purposes, with over 20 percent of that amount used to initiate new or expanded local health services.

These funds can be used to provide the States and communities with resources for program planning and operations which are essential to the development, extension, and updating of health services to meet today's needs. They complement other categorical grant programs through supporting and strengthening the basic framework of public health organization and staffing.

A series of meetings with State personnel are underway to discuss ways of achieving more effective utilization of these grant funds. There will be continued efforts made in cooperation with the State agencies involved to maximize the use of this grant to help meet existing and future community health needs.

Allocations of grant-in-aid funds for general health

State or territory	1963 actual	1964 estimate	1965 estimate
Alabama	$379,700	$352,500	$247,300
Alaska	42,400	40,200	28,800
Arizona	140,700	138,200	100,700
Arkansas	244,000	223,200	156,700
California	977,200	930,900	679,400
Colorado	158,000	151,100	109,700
Connecticut	144,500	134,400	97,800
Delaware	27,000	25,900	18,800
District of Columbia	41,600	39,100	28,100
Florida	430,200	416,900	306,300
Georgia	417,900	392,600	276,400
Hawaii	56,800	53,200	37,400
Idaho	88,300	83,600	60,100
Illinois	624,400	572,300	404,800
Indiana	354,400	327,600	229,700
Iowa	239,200	216,000	152,600
Kansas	202,600	186,200	131,200
Kentucky	329,200	302,400	212,600
Louisiana	334,400	310,200	226,400
Maine	109,600	102,500	72,000
Maryland	217,400	199,100	142,700
Massachusetts	336,900	304,800	215,100
Michigan	545,200	515,900	374,400
Minnesota	292,400	266,000	187,500
Mississippi	329,300	302,800	212,600
Missouri	336,700	305,900	212,500
Montana	81,000	77,800	55,400
Nebraska	141,700	131,300	91,800
Nevada	45,700	44,100	32,400
New Hampshire	60,400	55,900	39,300
New Jersey	374,500	346,300	252,500
New Mexico	116,400	110,100	78,300
New York	997,000	931,500	670,700
North Carolina	496,600	463,200	322,400
North Dakota	89,600	83,600	56,300
Ohio	673,000	641,700	464,300
Oklahoma	230,600	218,200	156,700
Oregon	159,400	151,500	105,400
Pennsylvania	809,600	746,500	532,900
Rhode Island	64,400	59,600	42,700
South Carolina	297,000	274,400	193,100
South Dakota	94,100	87,300	62,100
Tennessee	388,600	357,400	253,200
Texas	827,900	784,700	571,600
Utah	106,500	101,300	72,500
Vermont	52,500	48,300	34,000
Virginia	364,000	343,200	249,000
Washington	220,100	208,400	149,200
West Virginia	184,700	164,900	117,100
Wisconsin	311,400	291,500	204,200
Wyoming	52,500	50,400	35,000
Guam	11,800	10,600	7,500
Puerto Rico	341,300	315,600	223,800
Virgin Islands	7,700	7,200	5,000
Total	15,000,000	14,000,000	10,000,000

Training

	1964 estimate	1965 estimate	Increase or decrease
Grants, subsidies, and contributions	$8,095,000	$4,000,000	–$4,095,000

SUMMARY OF PROGRAM

Public health traineeships	$4,195.000		−$4,195,000
Grants to schools of public health	1,900,000	$1,900,000	
Project grants for graduate training	2,000,000	2,000,000	
Research training		100,000	+100,000

The shortage of trained health manpower is a major obstacle to the provision of needed community health services. The training grant programs are one important means to help alleviate this shortage.

Grants to schools of public health

These grants are for the support of public health training by the 12 accredited schools of public health. For 1965, $1,900,000 is requested the same level as in 1964. These funds provide for salaries of faculty and supportive staff, equipment, and other teaching costs. Although the basic core of support for these 12 schools comes from the public funds of 6 States and the endowment funds of 6 private universities, they fulfill an indispensable national and international training mission as reflected in their student bodies.

The demands upon these schools to provide comprehensive public health training for the wide variety of specialized community health activities create extensive faculty needs and require financial assistance on a national scale. As technological and social change bring about new and different types of public health problems, the demands upon the schools of public health to train individuals for leadership in solving community health problems become even greater. These funds permit the schools to adapt to continuously changing needs for public health training, expand and improve the training offered, and accept increased enrollments. Over 35 curriculum areas have been strengthened by the support these grants provide. Among these are included community planning, medical care and hospital administration, health economics, accident prevention, and other subjects reflecting the changing public health scene.

The grants are allocated by means of a formula which reflects the number of federally sponsored students attending each school. The amounts allocated to each school in 1964 and the estimated 1965 allocations are shown below:

School of public health	1964 estimate	1965 estimate [1]
California (Berkeley)	$199,800	$199,800
California (Los Angeles)	89,300	89,300
Columbia	121,100	121,100
Harvard	140,900	140,900
Johns Hopkins	177,300	177,300
Michigan	258,000	258,000
Minnesota	251,500	251,500
North Carolina	226,800	226,800
Pittsburgh	121,700	121,700
Puerto Rico	115,200	115,200
Tulane	114,300	114,300
Yale	84,100	84,100
Total	1,900,000	1,900,000

[1] Subject to the number of federally sponsored students.

Project grants for graduate training

The $2 million included in this request for project grants is the full amount authorized and the same as for 1963 and 1964. This will provide funds for continuation of about 80 active projects approved in prior years with tentative commitment of support up to 4 additional years. Unless one or more existing projects are terminated earlier than planned, it is expected that no new grants will be initiated in 1965.

These project grants are designed to strengthen and expand graduate and specialized public health training offered by schools of public health, nursing, and engineering in important curriculum areas. Grants are made to assist these schools to improve and enrich their curriculums to meet the needs of changing and emerging public health programs; to strengthen programs of basic training in public health administration; to develop and demonstrate improved public health training methods and procedures; and to enlarge faculty and supporting staff to meet increased enrollments. They are approved and awarded after careful review, recommendation, and determination of priority by the National Advisory Committee on Public Health Training, a statutory advisory group composed of experts in the field. Current active grants, by providing funds for such purposes as employment of faculty, supporting staff, and equipment, are enriching and improving teaching programs in health economics; public health and medical care administration; metropolitan planning; gerontology, chronic diseases, and long-term illnesses; accident prevention; and other areas in which trained personnel are in great demand.

Since the initiation of the program in 1961, over 90 projects have been supported covering 20 different curriculum areas.

Allocations of project grants for graduate training

	1963 actual	1964 estimate	1965 estimate
California	$239,702	$255,737	------------
Connecticut	28,500	29,900	------------
District of Columbia	5,423	7,495	------------
Florida	12,950	13,650	------------
Georgia	53,379	59,325	------------
Illinois	85,712	87,241	------------
Indiana	37,800	37,800	------------
Iowa	45,816	48,264	------------
Kansas	14,360	15,300	------------
Louisiana	25,618	26,698	------------
Maryland	147,630	106,226	------------
Massachusetts	243,530	227,806	------------
Michigan	174,293	182,304	------------
Minnesota	40,287	42,277	------------
Missouri	26,117	22,835	------------
New Jersey	15,902	15,672	------------
New Mexico	15,930	15,930	------------
New York	48,450	48,356	------------
North Carolina	197,518	203,512	------------
Ohio	67,035	56,660	------------
Oklahoma	58,959	58,960	------------
Oregon	25,995	15,200	------------
Pennsylvania	113,455	127,797	------------
South Dakota	17,928	17,928	------------
Texas	31,245	11,886	------------
Utah	25,450	26,000	------------
Virginia	4,210	------------	------------
Washington	65,578	59,475	------------
Wisconsin	11,880	13,000	------------
Puerto Rico	107,231	101,907	------------
Subtotal	1,987,883	1,935,141	------------
Funds to be awarded at future National Advisory Committee meetings	------------	64,859	$2,000,000
Total	1,987,883	2,000,000	2,000,000

Research training

If research in a specific area is to advance steadily and rapidly, it is essential that a supply of highly trained research investigators be made available. One important factor in the dearth of research concerned with the problems of the provision and utilization of comprehensive community health services has been the relatively short supply of well-trained research investigators equipped to deal with these special problems.

In response to this need for trained investigators we are requesting funds for a research training grants program in 1965. Based on the experience of other groups, such direct support of research training is a necessary part of a specialized research program. This type of training is needed to attract and retain highly qualified people in these specialized fields of research.

The research training grants proposed would be used for grants both to universities and to operating health agencies prepared to supply approved training. This will enable us to draw potentially outstanding investigators from the large number of health service personnel with actual operating experience, and provide them with necessary training in research methodology. In addition, specialists in the various research disciplines would be given an opportunity to receive training in public health problems and operations.

Several schools of public health are prepared to award a Ph. D. degree in medical care organization. This grant program would allow us to strengthen and expand this development. Several other schools are offering research training in the field of health education. In view of the recognized need for intensified research in health communications, it is planned to stimulate and support such efforts.

In 1965, $100,000 is requested to provide support for two or three research training grants.

Migrant health services

1964 estimate	$1,500,000
1965 estimate	2,500,000
Increase	+1,000,000

During 1963, Congress passed migrant health legislation authorizing an annual appropriation of up to $3 million for each of 3 years to the Public Health Service to assist States and localities with an influx of migrant workers. This was to be done (1) through special project grants which were to be awarded to public and voluntary nonprofit agencies or institutions to pay part of the cost of establishing and operating family health service clinics and other special projects to improve health services for and the health conditions of domestic agricultural migratory workers and their families; and (2) through direct operations to implement and support the grant program.

For the first year of this 3-year program (1963), $750,000 for special project grants was approved in a supplemental appropriation. For the second year, this was increased to $1,500,000.

In 1965, there is a pressing need for $2,500,000 for project grants to help support health services for domestic farm migrants and their families. This need was well documented when the authorizing legislation was pending before Congress. Our Nation's agriculture is geared to the ready availability of migrant labor when and where their labor is needed. Nearly 1,000 counties require their assistance at the peak of the crop season. Yet these counties are unable, without assistance, to extend health services to migrant workers and their families according to their need.

In 1963 we were able to fund 31 new projects in 21 States. In 1964 we will fund approximately 15 new grants.

The grant program in the past 2 years has enabled the provision of a variety of services to needy migratory farm families. Primary emphasis has been on the establishment of family health service clinics, scheduled at times and places accessible to migrants and with no residence requirements. Other types of project activities to improve health services to migrants are also supported. The following are examples of projects currently being financed in part by migrant health grant funds:

(*a*) Extension of nursing services in migrant homes, in day-care centers, and for camp sick call.

(*b*) Medical examinations, treatment of illness, immunizations, and general medical care by physicians on a part-time basis.

(*c*) Part-time dental services for emergency and restorative care.

(*d*) Medical social work and nutrition services to migrant families.

(*e*) Inspection of migrant labor camps and consultation to camp owners on methods of correcting or avoiding deficiencies in water supplies, waste disposal, and general environmental conditions.

(*f*) Health education services for children in day-care centers and for adults in labor camps.

(*g*) Services of health aids recruited from among the migrant population to facilitate greater utilization of health services available to migrants.

Present indications are that in 1965, we will have at least $1,500,000 in new project applications from voluntary and public organizations in 12 States. The $1 million increase requested will permit the funding of 20 to 25 of these new projects to provide health services which would not otherwise be available to a substantial number of agricultural migrant workers and their families.

Allocations of migrant health project grants

State or territory	1963 actual	1964 estimate	1965 estimate
Arizona	$82,431	$75,550	
Arkansas	22,640	22,640	
California		481,566	
Colorado	57,433	57,838	
District of Columbia	8,500		
Florida	14,462	98,972	
Indiana	30,000	30,000	
Iowa	5,800	5,800	
Kansas		30,191	
Maryland		8,500	
Michigan	25,912	28,007	
Minnesota	5,924		
New Jersey	130,669	135,000	
New Mexico	2,070	2,070	
New York	11,612	11,512	
North Carolina	27,420	41,000	
Ohio	64,577	84,606	
Oregon	62,620	76,810	
Pennsylvania	22,339	41,178	
South Carolina	36,689	36,689	
Texas	103,007	177,645	
Virginia	4,920	54,426	
Washington	30,975		
Total	750,000	1,500,000	[1] $2,500,000

[1] These grants are allocated on a project basis.

Research, training, and technical services

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	291	$2,455,400	291	$2,558,400		+$103,000
Other expenses		887,600		865,600		−22,000
Total	291	3,343,000	291	3,424,000		+81,000
SUMMARY OF PROGRAM						
Medical care administration and health economics	79	1,028,000	79	1,058,000		+30,000
Public health administration	79	863,000	79	887,000		+24,000
Health communications	20	235,000	24	299,000	+4	+64,000
Health services for migrant workers	45	500,000	45	500,000		
Community health manpower operations and evaluation	28	274,000	24	227,000	−4	−47,000
Program direction services in regional offices	40	443,000	40	453,000		+10,000
Total	291	3,343,000	291	3,424,000		+81,000

Medical care administration and health economics

1964 estimate	$1,028,000
1965 estimate	1,058,000
Increase	+30,000

A tremendous effort has been made by private, public, and voluntary organizations to develop new techniques of diagnosing and treating disease. However, a commensurate effort has not been made in delivering these new techniques to the patient. All of the improved techniques are not of much use to the individual who does not know about or cannot find his way through the maze of community health services, or who is prevented from using these services because of inefficient methods of financing.

In the area of medical care administration we are concentrating on two main needs: (1) the development of new or improved methods of organizing and administering medical care programs, and (2) developing or making available a comprehensive set of improved standards for personal health services, including the personnel and facilities required to provide these services.

An inventory of standards, initiated in 1964, will show what gaps exist and where improvements are required in present standards. In 1965 we will concentrate on fostering the development or revision of standards. A study already underway, which relates both to standards and to methods of applying them, tests the feasibility of using the office records of private pracitioners as a means of evaluating the quality of care provided. This project is being conducted in cooperation with the University of Pittsburgh and the New York State Society of Internal Medicine.

Other work on improved methods of organization includes a study of the organization and problems related to organizing a prepaid group medical practice in a metropolitan area in the Midwest.

The end purpose of this work is to provide the practicing medical care administrator with the findings from these studies of the organization and administration of medical care programs so that he may make use of this knowledge in his own situation.

Rapid developments in the public health field make a central source for the coordination and development of health economics information essential. As a first step we have gathered financing and use data on key areas in a form which makes it useful for people involved in health programs. Two of these have been published as health economics "source books." The first, "Medical Care Financing and Utilization," met a widely felt need. In process now, and to be completed this year is a source book on the impact of maternity care on medical resources, health insurance, and family medical expenditures.

Private health insurance companies in Alabama and Tennessee are participating in a project with us to document the cost of mental illness benefits covered by voluntary health insurance. It is only by documentation of such actual experience that other programs of health insurance can determine for themselves that such coverage is feasible. Extension of such benefits to a larger proportion of our population may reduce the increased costs of treatments which occur at a later stage in these illnesses.

In 1964, we are planning to study the cost of operating a community-oriented comprehensive care unit based in a rural hospital. This study will determine direct operating costs to both the hospital and community for such a unit; it will also attempt to study the value of this type of unit to a rural community in terms of the ultimate savings in long-term care costs. This study is directed toward learning whether it is feasible to provide such services, in view of the national interest in providing health services to rural areas and whether they can indeed be provided at a reasonable net cost by many similar community-oriented rural hospitals. While it has been established that comprehensive care programs are valuable and can return the patient to a functional or partially functional status, the ultimate value is not merely in making the patient functional but also in the fact that it removes from community responsibility a burden it might otherwise carry for many years. The rehabilitated patient is not only able to earn his own way, but is removed as an absorber of community health resources. It will be the intent of this study to ascertain the degree to which a community burden has been eased through comprehensive care services and to establish the extent to which rural comprehensive programs may be self-sustaining.

The increase requested provides $30,000 for built-in costs including the pro rata share of the Bureau of State Services management fund.

Public health administration

1964 estimate	$863,000
1965 estimate	887,000
Increase	+24,000

The official health agencies have a key role in (1) assuring that needed health services are supported and available to the community and (2) providing leadership, collaborating with, and supporting the informal and voluntary forces of the community which have an important role in programs for providing health services. These agencies can serve as the backbone for the organization and coordination of efforts aimed at meeting the health needs of the community.

Our activities in this area primarily represent a reinforcement of traditional Federal-State-local cooperation in meeting modern public health problems.

Efforts are now underway to collect and analyze data on situations which illustrate the ways and approaches by which governments at various levels organize to meet health service responsibilities, and the influence which such organization has on services, on community coordination and on the interactions of the levels of government. Studies, carried on in cooperation with State and local authorities will provide patterns for the development of improved public organization to assist in the delivery of health services by identifying causes for the varying degrees of success with which governmental organizations fulfill their roles.

Several projects serve to exemplify activities in this area. In cooperation with a State health department, the problems and factors related to the delivery of health services at the local level are being identified and analyzed. A study is also being made of the existing National, State, local, official, and voluntary health organizations involved in the planning and provision of health services in a major metropolitan area to identify factors that could be useful to other metropolitan areas in carrying out their health related responsibilities.

One specific aspect of official community organization which has a major influence on health status and which we are examining specifically is school health programs. These programs are of particular importance since they provide an excellent means for the prevention, early detection, referral and assistance in the solution of health problems. They provide a useful measure for the identification of gaps in the total community health services structure, which can lead to formulation of programs and approaches to fill these gaps and provision of more adequate services to meet the needs of today's children.

In 1964, the Division initiated a study in depth of selected school health services in the United States. In cooperation with five schools of public health, we will study the organization, administration, and functions of school health programs in five different communities. This survey will provide baseline data upon which the criteria for the evaluation and improvement of school health programs can be developed and projects can be initiated to demonstrate ways in which the school community health resources are used most effectively to provide services to meet the needs of today's children. In 1965, we will have completed the analysis of the data obtained and will examine what other steps are needed to meet the goals of this study.

The increase of $24,000 provides for built-in costs including the pro rata share of the Bureau of State Services management fund.

Health communications

1964 estimate	$235, 000
1965 estimate	299, 000
Increase	+64, 000

Communications theory and technology, like medical science and practice, have made striking advances over the past two decades. However, these advances have not been fully reflected and applied in health fields.

A glaring and serious gap exists between the scientific discoveries made in the health sciences and the actual application of these findings to the solution of community health problems.

The urgency for intensified efforts in this area was stressed and excellently defined in the 1964 Report of the Senate Committee on Appropriations. This report pointed out that there is * * * "Substantial evidence of the remarkable progress being made in the acquisition of new medical knowledge. This splendid achievement, however, remains incomplete without this new knowledge coming into direct application to health problems."

In view of the critical importance of applying discoveries made in the health sciences as rapidly as they are developed, we have broadened our traditional health education program to provide a more effective and direct focus on the key elements of this problem.

These activities include: (*a*) Making widely available new knowledge about how to organize, administer, and finance community health services; (*b*) conducting or financing studies, experiments, and demonstrations to ascertain how best to apply modern communications technology to health problems; (*c*) developing and testing particular approaches to different population groups; (*d*) improving and expanding efforts directed toward continuing education.

In 1965, emphasis will be placed on items (*b*) and (*d*) and will include an analysis of continuing education needs for health personnel and identification and development of means for providing such education. Another study will center on the ways in which rural practitioners can be brought up to date on the newest developments in medical care.

Secondly, we must start to take greater advantage of the striking advances made in communications theory and technology in recent years, and attempt to apply these findings specifically to the health field. To do this, we plan to add specialists in these communications fields who will work with health program personnel at Federal, State, and local levels to assist in developing more effective techniques for communication of health knowledge.

As our program develops, it will be carried out in cooperation with a wide range of universities, teaching hospitals, public and voluntary health organizations, scientific communication centers, and other similar organizations.

Our present efforts in these areas include studies on improving physician-patient communication and a project being started in an upstate New York area to determine continuing education needs for physicians. However, if we are to make real inroads on the problem of translating new scientific knowledge into effective health action, this effort must be accelerated.

The increase requested provides $56,200 and four positions for new programs, and $7,800 is provided for built-in costs including the pro rata share of the Bureau of State Services management fund.

Health services for migrant workers

1964 estimate	$500,000
1965 estimate	500,000
Increase or decrease	--------

As part of the migrant health program passed by Congress in 1963 the Public Health Service was authorized to encourage and cooperate in programs for the purpose of improving health services for and improving the health conditions of domestic agricultural migratory workers and their families.

In 1964 a variety of program activities are underway including implementation and support of the grant program; consultation and technical assistance on migrant health as requested by the States; stimulation of State and local communities to provide more effective orientation of workers involved in migrant health programs; promotion of interagency and interstate planning, and closer working relationships; encouragement of studies and demonstrations designed to develop new knowledge and techniques in the area of migrant health; and fostering further pertinent research in the migrant health field.

In 1965, emphasis will be placed on:

1. Interstate factfinding and pooling of information along a major migrant stream as background for more realistic planning and relating of services and conditions in one area to those in other areas serving the same migrants.
2. Stimulating and helping to arrange interagency and interarea workshops and discussion conferences for planning and arranging for continuity of services, orientation, and development of pilot interarea demonstrations.
3. Working out specific arrangements to facilitate interarea coordination; e.g., the exchange of nursing, sanitation, health education, and other types of personnel between areas which have a natural working relationship in the same migratory stream.
4. Identifying barriers to the provision of coordinated health services to migrants along major streams of migration and developing ways to overcome them.
5. Exploring ways of determining and developing the potential of crew leaders and other migrant leaders to meet the health problems and needs of migrants.
6. Exploring ways to stimulate migrants to assume more responsibility for meeting their own health problems and needs.

Community health manpower operations and evaluation

1964 estimate	$274,000
1965 estimate	227,000
Decrease	−47,000

This estimate provides primarily for the direction, programing, and management of the public health training grant programs.

The training grant operations conducted by the Division of Community Health Services encompass a broad range of complex relationships with academic institutions, State and local agencies, and health and health-related professional organizations. The work of reviewing, processing, and evaluating applications, grants, and traineeship awards under the public health traineeship program will continue. In addition, the staff provides consultation concerning grant activities and evaluates existing programs and the need for revisions. They also provide continuous overall planning and evaluation of all aspects of ongoing grant programs and the development of policies, programs, and legislation.

In 1964 a considerable effort was devoted to preparation for and conduct of the Second National Conference on Public Health Training held in August 1963. This Conference was called by the Surgeon General to assist him in appraising the effectiveness of the public health traineeships authorized by section 306 of the Public Health Service Act, and in determining the modification, if any, which may be needed to increase the effectiveness of the legislation. This Conference was attended by over 90 key leaders of professional and educational groups providing and utilizing public health training.

The report and recommendations of this group were furnished to Congress in November 1963. Portions of these recommendations will be reflected in the request for new legislation being submitted separately.

A reduction of $50,000 and four positions is being made as a result of completion of the activities relating to the National Conference on Public Health Training. This reduction is partially offset by built-in costs of $3,000, making a net reduction of $47,000.

Program direction services in regional offices

1964 estimate	$443,000
1965 estimate	453,000
Increase	+10,000

The staff of the regional health director in each of the Department's nine regions is financed by this activity.

The regional offices occupy a central role in carrying out Public Health Service programs. The regional health director is a focal point for the administration and management of a large variety of health programs, and represents the Public Health Service in official relationships with public and voluntary health agencies.

The increase requested provides $10,000 for built-in costs including the pro rata share of the Bureau of State Services management fund.

New positions requested fiscal year 1965

	Grade	Annual salary
Research, training, and technical services:		
Public health program specialist	GS-13	$11,731
Do	GS-11	8,424
Clerical assistant	GS-5	4,701
Do	GS-4	4,222
Total new positions (4)		29,078

CONTROL OF TUBERCULOSIS

WITNESSES

DR. JAMES L. GODDARD, CHIEF, COMMUNICABLE DISEASE CENTER
DR. AARON W. CHRISTENSEN, DEPUTY CHIEF, BUREAU OF STATE SERVICES
HARRY PEDIGO, PROGRAM MANAGEMENT OFFICER, TUBERCULOSIS PROGRAM
LELAND W. SMITH, FINANCIAL MANAGEMENT OFFICER, COMMUNICABLE DISEASE CENTER
JOHN W. HAMBLETON, FINANCIAL MANAGEMENT OFFICER FOR COMMUNITY HEALTH PROGRAMS
DR. LUTHER L. TERRY, SURGEON GENERAL
HARRY L. DORAN, CHIEF FINANCE OFFICER
JAMES F. KELLY, DEPARTMENT BUDGET OFFICER

Object classification

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
11 Personnel compensation:			
Permanent positions	1,025	1,152	1,173
Positions other than permanent	150	229	277
Other personnel compensation	13	24	20
Total personnel compensation	1,189	1,405	1,470
12 Personnel benefits	120	133	138
21 Travel and transportation of persons	148	160	160
22 Transportation of things	14	17	17
23 Rent, communications, and utilities	140	114	114
24 Printing and reproduction	11	9	9
25 Other services	274	287	288
Services of other agencies		1	1
Research contracts	180	183	183
Payment to Bureau of State Services management fund	65	58	59
26 Supplies and materials	109	66	66
31 Equipment	49	15	15
41 Grants, subsidies, and contributions	4,456	4,403	3,846
Total obligations	6,754	6,851	6,364

Personnel summary

	1963 actual	1964 estimate	1965 estimate
Total number of permanent positions	195	195	195
Full-time equivalent of other positions	25	36	42
Average number of all employees	199	221	227
Employees in permanent positions, end of year	179	187	187
Employees in other positions, end of year	36	28	37
Average GS grade	5.8	5.8	5.8
Average GS salary	$5,559	$5,837	$5,837

Program and financing

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
Program by activities:			
1. Grants:			
(*a*) Formula grants to States	3,236	2,900	
(*b*) Project	1,242	1,606	4,000
2. Research, training, and technical services	2,433	2,315	2,364
Total program costs, funded [1]	6,911	6,821	6,364
Change in selected resources [2]	−157	29	
Total obligations	6,754	6,851	6,364
Financing:			
Comparative transfers to or from other accounts	210	−1	
Unobligated balance lapsing	29		
New obligational authority	6,993	6,850	6,364
New obligational authority:			
Appropriation	6,993	6,828	6,364
Proposed transfer from "National Heart Institute" due to Uniformed Services Pay Act of 1963		22	

[1] Includes capital outlay as follows: 1963, $63,000; 1964, $18,000; 1965, $18,000.

[2] Selected resources as of June 30 are as follows: Unpaid undelivered orders; 1962, $252,000; (1963 adjustments, −$30,000); 1963, $65,000; 1964, $94,000; 1965, $94,000.

Dr. Terry. Mr. Chairman, Dr. Blomquist is ill and Dr. Goddard will present the tuberculosis program.

Mr. Fogarty. Go right ahead, Dr. Goddard.

Dr. Goddard. Mr. Chairman, the tuberculosis program is part of the Communicable Disease Center activities.

If I may, I will proceed with this short statement, sir.

Mr. Fogarty. All right, go right ahead.

General Statement

Dr. Goddard. Mr. Chairman, in recent years, tuberculosis has been getting a reputation as a disease not of young people but of older adults.

It is true that slightly more than half of the 53,315 tuberculosis cases reported in 1962 were in persons over 45 years of age, but 6,000 of the 1962 cases were in children younger than 15 years. These 6,000 children had active disease; that is, they were not just tuberculin reactors, but also had X-ray changes showing presence of tuberculous lesions. Some of them had the adult type of pulmonary tuberculosis.

Children who have active tuberculosis represent failure in present control of the disease, but in addition, they and the hundreds of thousands of their contemporaries who also are infected represent the problem of future tuberculosis control.

As long as these infected children live, they will live with the possibility of developing tuberculous disease from their dormant infections.

Probably between 35,000 and 40,000 of the total cases reported in 1962 developed from infections acquired at some time in the past. Of course, many older people now living grew up in an era when tubercle bacilli were much more readily present in the environment.

There are not as many tubercle bacilli in our environment today but the thousands of children who have positive skin tests have encountered the bacilli somewhere, and most of them recently.

The increase of $2,394,000 requested for special project grants in 1965, offset by a shift from $2,900,000 in formula grants to the States will permit continuation, extension, and addition to the type of projects now in operation, which provide services to known tuberculous patients and their families in areas with large tuberculosis problems. The increase will also allow for expansion into programs designed to begin an orderly attempt to approach the massive reduction of tuberculosis. In 1965, approximately 1,500,000 children will be tuberculin tested on entrance to school and services will be provided under the program to find the source of infection of those who react and to initiate procedures to stop further spread of infection. This is in line with the thinking of the task force on tuberculosis.

The task force called by the Surgeon General at the suggestion of the House committee has recently completed its report which has been sent to you.

New knowledge about treatment, laboratory methods, and epidemiology makes it necessary to continue our training programs for physicians, nurses, and other tuberculosis workers, and to put into motion more effective manpower utilization concepts.

In 1965, research activities will be directed toward widening knowledge in three areas essential to public health control of tuberculosis: The definition of risk, effects of preventive measures, and the consequences of treatment.

Mr. Chairman, I shall be glad to answer any questions you may have about this program or the budget request.

Mr. FOGARTY. Thank you.

1965 BUDGET

The appropriation for 1964 was $6,828,000, and the request for 1965 is $6,364,000, a reduction of $464,000.

I hope this does not show all the way through this budget, Doctor. What we have come to so far in the hearings on the Public Health Service is practically all minuses. This is one of the worst.

TASK FORCE RECOMMENDATIONS

This does not look much like the first year of the recent task force recommendations, does it?

Dr. GODDARD. Sir, this budget was, of course, prepared before the task force report was completed. The task force was forwarded, I believe, to Dr. Terry and thence to you. It went to Dr. Terry about December 20, and, of course, this budget was already there, sir.

Mr. FOGARTY. Well, there have been things happen later than that to show a new need and budget amendments have been submitted to the Bureau of the Budget by this time.

Members of the task force I talked to are very disappointed that nothing has been done by this administration. They put a lot of time and effort into this.

We discussed this task force report with Dr. Terry yesterday. Would you give us a little bit more detail on just what kind of a program they recommended and their estimate of the results if it were carried out?

Dr. Goddard. Yes, sir; I will be happy to. The task force in essence presents six recommendations. The first of these is that the Public Health Service request increased appropriations to provide services to patients. This should be done through grants to States. There are three types of services they feel need special attention:

(*a*) Services to unhospitalized active cases, to inactive cases for 5 years after the disease becomes inactive, and to all contacts of new cases.

(*b*) Then the identification of persons at risk, through the program of tuberculin testing of all school enterers and the associates of reactors, examination of schoolteachers, school drivers, and persons who come in close contact with schoolchildren, and a program of routine hospital admission X-rays in public hospitals in cities of 250,000 or more.

(*c*) A continuing periodic examination of persons at risk and prophylactic therapy, isoniazid therapy, when indicated.

The second major recommendation is that they believe it is in the interest of the Nation's health that these services, necessary for tuberculosis control, be available to all persons regardless of their ability to pay or regardless of their place of legal residence, and they should not be withheld as means of punishment.

Third, they recommend that there is a pressing need not only for the improvement of skills of the present workers in the field of tuberculosis control but also to preserve and develop professional competence to meet the future need. And here they spell out several things; such as the establishment of six training fellowships in medical schools and exploring ways that the medical school curriculum can be expanded to provide more information on the treatment and control and prevention of tuberculosis.

Expansion of activities designed to acquaint today's physicians, and ones that are to graduate in years ahead, the ways of keeping them up to date on tuberculosis control, plus the training of persons in the nonprofessional field.

We will never have enough professional personnel; we have to train intelligent college graduates to carry out some of the tasks which we now feel should be done by professional personnel.

Fourth, they recommend we have a better national system of recordkeeping in tuberculosis. Many of these patients move from place to place and perhaps migrate even more than the 10 percent of our Nation who move from one State to another every year, so we need automatic data processing to keep in touch with where these people are and what services they need at a given point in time.

Fifth, they recommend that there be amounts of money provided for technical services and training, not to exceed $1,630,000 a year.

Sixth, although they recognize the major thrust of the effort should be in the area of applying what we know today, we should also continue to devote resources to carrying out research activities which would improve our knowledge of the disease and perhaps ultimately lead to such things as development of a vaccine. They recommend that the level of research support reach $2,120,000 by the third year.

Now, in terms of the annual support recommended by the task force, to summarize it, they recommend a maximum of $29,200,000. This level is to be reached by the third year.

EFFECTS OF THE TASK FORCE PROGRAM

The effects of this program could be somewhat startling. If we just take the financial impact of such a program, we now have calculated that the savings we as a Nation would accrue in a 10-year period would be $1¼ billion.

These are the savings in the costs of hospitalization alone. If we add to that the savings or the earnings that people would then have who would have otherwise been unable to work, we would add another quarter of a billion dollars.

Mr. Fogarty. What was that last one?

Dr. Goddard. Today, at the present rate of people acquiring the disease, we can calculate how many will be unable to work in a given year.

Now, if the task force recommendations are implemented, many of these people will not be prevented from working and thus even if we calculate $2,000 a year as their earnings, we come out with a quarter of a billion dollars added earning power to add to this $1 billion and a quarter I mentioned earlier.

More important than this is the long-range impact such activities will have on rates, on the incidence. It is calculated we will have in 10 years only 22,000 active cases if we implement the task force recommendation.

If we do not and if we continue at our present rate, we anticipate 50,000 cases a year would occur.

I mentioned that some 6,000 children a year have active disease. My recollection is that if this program is implemented by the 10th year we would have fewer than 500 children with active tuberculosis. And in the long run this would have great effect on the number of people who break down, who will contribute to the problem. This is a long-range problem.

These are some of the major recommendations. I mentioned cost of hospitalization. Today we are spending an estimated $335,800,000 in hospitalization costs. With our present program, in 10 years this will rise to $376,100,000. If the task force program is implemented it would drop to $96,400,000. By the 10th year, this will be a saving of some $239 million in hospital costs alone.

Mr. Fogarty. All right, that is a very good explanation of the task force report.

Do you agree with their recommendations?

Dr. Goddard. Yes, I do indeed.

Mr. Fogarty. Do any of the leading professional people in this field that you know of disagree?

Dr. Goddard. Sir, the only ones to my knowledge that are aware of the report are the members of the task force, members of the Surgeon General's office, my immediate superiors and I believe you, sir.

I would say from what I know about their previous recommendations and feelings about how we should tackle the tuberculosis problem in this country, this is not inconsistent with positions they have adopted before.

NEED FOR BUDGET AMENDMENT TO ACTIVATE RECOMMENDATION

Mr. FOGARTY. I am surprised that, with your background and knowledge of this field of public health, that a fellow as young and full of pep as you, has not insisted on a budget amendment. I cannot for the life of me understand why no action is being taken.

Just the last figure you gave us that we can save $239 million a year by the tenth year in hospital costs alone—that is much more than we would spend on the Federal program.

Dr. GODDARD. I am very impatient to see this begun, sir.

Mr. FOGARTY. What are you doing about it?

Dr. GODDARD. Well, internally we have been making plans as far as our staff are concerned, how we can implement it.

Mr. FOGARTY. It looks to me like you aren't doing much more than you did as a result of the Arden House conference.

I have before me the Public Health Reports issue of February 1960 which discusses a meeting that was held in Arden House in New York in November 1959. The heading is "Approach to Zero for Tuberculosis."

> Poised for a knockout assault on tuberculosis, the Public Health Service and the National Tuberculosis Association last November invited a distinguished panel to advise on use of available resources for accelerating the disease's decline.
>
> Tuberculosis can be extinguished as a public health problem.

This was decided back in 1959. Here we are 5 years later, and as far as the next fiscal year budget is concerned, we are going backward instead of forward in this area.

I just cannot understand this. With all of these economic factors you mentioned, to say nothing of the alleviation of suffering and prolonged life, I cannot for the life of me understand why you and Dr. Terry and the Secretary have not insisted on a budget amendment to get this program off the ground in 1965. If the administration believes in economy, this is one of the best things I can think of to do.

I am beginning to wonder about this because of so many cuts in the field of public health in programs that could save the country and the taxpayers—local, State, and National—millions of dollars.

Eight or ten years ago this committee criticized the administration for cutting back on grants to States for VD control, and we warned that cutting back at that time would perhaps let down the bars, so to speak, and the decline might be reversed. That is just what happened. It was a mistake to cut back as they were doing in order to save a small amount in appropriations, because those cutbacks probably cost the taxpayers millions and millions of dollars.

Now, if we let this go and do not do anything about it, this will be the best example of false economy that I have seen in this entire budget so far.

Is there anything you want to say to that?

Dr. GODDARD. No, sir. You have expressed it.

Mr. FOGARTY. Dr. Terry, do you want to say anything more to that?

I am going to say the same thing about VD, too. This is one of the worst budgets I have ever seen for the Public Health Service.

Has the Public Health Service proposed a budget amendment to the Department?

Dr. Terry. We have not proposed to the Department a budget amendment, Mr. Chairman, for that purpose.

Mr. Fogarty. Why not?

Dr. Terry. I suppose largely because we thought our chances of getting additional funds at least at this time, were so poor, sir.

Mr. Fogarty. If the Secretary and the Bureau of the Budget and the President took the time to look at these figures that have just been given to this committee, they ought to jump at an opportunity like this to spend a little money now and save many times as much over a period of years.

I just cannot understand this budget. This is one of the worst examples we have come across.

Do you have anything else you want to say, Doctor?

Dr. Goddard. No, sir; thank you.

Mr. Fogarty. Thank you very much.

JUSTIFICATION MATERIAL AND TASK FORCE REPORT

We will place your justifications in the record and also the task force report, although the two really shouldn't be placed in the same section of our hearings. They certainly don't go together very well.

(The justification material follows:)

Control of Tuberculosis

Amounts available for obligation

	1964	1965
Appropriation	$6,828,000	$6,364,000
Proposed transfer from "National Heart Institute"	+22,000	
Comparative transfer from "Salaries and expenses, Office of the Surgeon General"	+1,000	
Total	6,851,000	6,364,000

Obligations by activities

Description	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
1. Grants		$4,506,000		$4,000,000		−$506,000
(a) Formula grants to States		2,900,000				−2,900,000
(b) Project		1,606,000		4,000,000		+2,394,000
. Research, training, and technical services	195	2,345,000	195	2,364,000		+19,000
Research	140	1,521,000	140	1,529,700		+8,700
Technical services and training	55	824,000	55	834,300		+10,300
Total obligations	195	6,851,000	195	6,364,000		−487,000

Obligations by objects

	1964 estimate	1965 estimate	Increase or decrease
Total number of permanent positions	195	195	
Full-time equivalent of all other positions	36	42	+6
Average number of all employees	221	227	+6
Number of employees at end of year:			
Permanent positions	187	187	
Other	28	37	+9
11 Personnel compensation:			
Permanent positions	$1,152,000	$1,173,000	+$21,000
Positions other than permanent	228,800	276,800	+48,000
Other personnel compensation	23,900	19,700	−4,200
Total personnel compensation	1,404,700	1,469,500	+64,800
12 Personnel benefits	133,000	137,600	+4,600
21 Travel and transportation of persons	160,000	160,000	
22 Transportation of things	17,100	17,100	
23 Rent, communications, and utilities	113,900	113,900	
24 Printing and reproduction	8,600	8,600	
25 Other services	287,300	287,700	+400
Services of other agencies	1,000	1,000	
Research contracts	183,200	183,200	
Payment to "Bureau of State Services management fund"	58,200	58,800	+600
26 Supplies and materials	66,000	66,000	
31 Equipment	15,000	15,000	
41 Grants, subsidies, and contributions	4,403,000	3,845,600	−557,400
Total obligations by objects	6,851,000	6,364,000	−487,000

Summary of changes

1964 enacted appropriation	$6,828,000
Proposed transfer from "National Heart Institute"	22,000
Comparative transfer from other accounts	1,000
Total estimated obligations, 1964	6,851,000
1965 estimated obligations	6,364,000
Total change	—487,000
INCREASES	
A. Built-in:	
1. Annualization of step 2 of civil service pay increase	+15,200
2. Annualization of uniformed services pay increase	+8,000
Subtotal, built-in increases	+23,200
B. Program increases:	
1. Expansion of project grants	+2,394,000
Subtotal increases	+2,417,200
DECREASES	
1. 1 less day's pay in 1965 (262 days in 1964; 261 days in 1965)	—4,200
2. Reduction in formula grants to States	—2,900,000
Subtotal, decreases	—2,904,200
Total net change requested	—487,000

EXPLANATION OF CHANGES

Project and formula grants

An increase of $2,394,000 in project grants offset by a decrease in formula grants to States of $2,900,000 will permit the diversion of funds into the types of projects which now provide services to tuberculosis patients and their families in areas with large tuberculosis problems. A program will be initiated to begin an orderly approach to the massive reduction of tuberculosis through tuberculin testing of children on entrance to schools and examining the reactors, their families, and other associates.

Explanation of transfers

	1964 estimate	1965 estimate	Purpose
Transfer from: "National Heart Institute."	+$22,000	0	Proposed transfer due to Uniformed Services Pay Act of 1963.
Comparative transfer from: "Salaries and expenses, Office of the Surgeon General."	+1,000	0	Decentralization of accounting point costs.

Significant items in House and Senate Appropriations Committee reports

Item: 1964 House report, "Study of the Tuberculosis Problem":	"Action taken or to be taken":
(1) The committee recommended that a study be made of the tuberculosis problem similar to that made by the Surgeon General's Task Force on the Eradication of Syphilis.	(1) In fiscal year 1964, a task force was formed and reported to the Surgeon General on tuberculosis control in the United States.

Control of tuberculosis

	Budget estimate to Congress	House allowance	Senate allowance	Appropriation
1955	$3,500,000	$6,000,000	$6,000,000	$6,000,000
1956	[1] 6,087,200	6,062,000	6,087,200	6,062,000
1957	6,410,000	6,410,000	6,660,000	6,660,000
1958	7,000,000	7,000,000	7,000,000	7,000,000
1959	5,535,000	5,501,000	7,035,000	6,501,000
1960	5,452,000	5,452,000	6,952,000	6,452,000
1961	5,493,000	5,993,000	6,493,000	6,493,000
1962	6,493,400	6,493,000	6,493,000	6,493,000
1963	6,493,000	6,493,000	7,493,000	6,993,000
1964	6,828,000	6,828,000	6,828,000	6,828,000
1965	6,364,000			

[1] Supplemental of $25,200 not considered by the House.

	1964 estimate	1965 estimate	Increase or decrease
Grants	$4,506,000	$4,000,000	−$506,000
(a) Formula grants to States	2,900,000		−2,900,000
(b) Project	1,606,000	4,000,000	+2,394,000

In spite of intensified control efforts, 53,000 new cases of tuberculosis were reported in 1962. For the first time since the introduction of modern chemotherapy the case rate did not decline. Improved performance in examining contacts of new cases—the most productive form of casefinding—has undoubtedly contributed to this as have more realistic reporting practices.

In spite of this however, the case rate, which has leveled off, indicates how difficult will be the task of reducing further the amount of tuberculosis that occurs. Continued progress calls for continued intensive tuberculosis control efforts.

In areas of the United States where large numbers of new cases are still reported annually, special project grants are being used in order to help alleviate this situation and to reduce the caseload to a level more nearly comparable with that of the rest of the country.

The 35 special project grants in 1963 paid for more physicians, nurses, and other professional personnel thereby permitting unhospitalized tuberculosis patients to receive improved medical care, and also to insure that their families were examined and provided with diagnostic and prophylactic services when needed. The grants also provided for more efficient record procedures and for extended laboratory services of higher quality.

The magnitude of the problem which the special project grants are helping to meet is indicated by data from 22 of the project communities. These 22 were sufficiently similar to provide comparable data, and all had been in operation at least 12 months at the end of 1963. They had a total of nearly 37,000 known current cases of tuberculosis, including 29,000 which were not hospitalized. Six thousand of the unhospitalized cases were active cases. For an additional 11,000 cases, although they were no longer active, chemotherapy was still prescribed. Altogether, during the data year the unhospitalized patients in these areas made 72,000 visits to a clinic where they saw a physician and had an X-ray. Many clinic visits included other examinations and laboratory tests as well. Contacts to newly reported cases in the areas—and there were over 20,000 contacts—made 25,500 clinic visits. In addition, public health nurses in these 22 areas made well over 100,000 visits to tuberculosis patients and their families in their homes.

In 1964 the amount appropriated for special project grants will provide for projects in about 40 areas, extending services to tuberculosis patients and their families in additional areas with large tuberculosis problems, and at the same time, when the situation warrants, expanding a few projects to add casefinding activities directed to high-risk groups other than contacts.

The increase in special project grants (as a result of the reduction in formula grants to States) from the present level to $4 million in 1965 will permit continuation of the types of projects now in operation in areas with large tuberculosis problems and will also provide for initiation of a program to begin an orderly approach to the massive reduction of tuberculosis. In 1965, special project grants totaling $1,500,000 will be made for programs set up to tuberculin test approximately 1.5 million children on entrance to school, examine the reactors and their families and other associates, and provide continued medical supervision and prophylactic treatment when indicated for persons found to be at high risk of contracting tuberculosis. These programs will be utilized to detect potential disease among the people who could infect children and will also set up machinery for the prevention of disease in this group through prophylaxis or the earliest possible casefinding. These programs will be based on the sound premise that only as children grow up free of tuberculosis infection can we move toward eradication of the disease.

Allocations of grant-in-aid funds for tuberculosis control

State or territory	1963 actual	1964 estimate	1965 estimate
Alabama	$78, 900	$70, 800	------------
Alaska	16, 300	15. 100	------------
Arizona	42. 000	38, 100	------------
Arkansas	49, 000	44. 400	------------
California	227, 900	202. 200	------------
Colorado	26, 300	24. 000	------------
Connecticut	30, 700	27, 400	------------
Delaware	14, 000	13, 200	------------
District of Columbia	30, 100	26. 700	------------
Florida	76. 000	68. 600	------------
Georgia	70, 100	63. 400	------------
Hawaii	17, 300	16, 600	------------
Idaho	13. 000	12, 600	------------
Illinois	177, 400	157, 500	------------
Indiana	69. 500	62. 000	------------
Iowa	30. 100	25, 800	------------
Kansas	25. 500	22, 700	------------
Kentucky	75, 600	65. 800	------------
Louisiana	65, 700	59, 200	------------
Maine	17, 900	16, 700	------------
Maryland	68, 100	61, 700	------------
Massachusetts	78, 100	69. 100	------------
Michigan	119, 200	106. 900	------------
Minnesota	39, 900	35, 500	------------
Mississippi	49, 500	43. 800	------------
Missouri	72, 900	63, 500	------------
Montana	16, 500	14, 900	------------
Nebraska	19, 500	17, 200	------------
Nevada	12, 000	11, 300	------------
New Hampshire	13, 000	12, 500	------------
New Jersey	91, 800	81, 800	------------
New Mexico	28, 400	24, 900	------------
New York	303, 500	264. 000	------------
North Carolina	68, 600	61, 900	------------
North Dakota	13, 600	12, 900	------------
Ohio	137, 700	121, 400	------------
Oklahoma	40, 800	36, 700	------------
Oregon	28, 700	26, 300	------------
Pennsylvania	200, 900	175, 400	------------
Rhode Island	18, 200	17, 200	------------
South Carolina	47, 200	42, 800	------------
South Dakota	15, 600	14, 700	------------
Tennessee	84, 000	74, 100	------------
Texas	149, 800	132, 400	------------
Utah	14, 300	13, 600	------------
Vermont	13, 300	12, 100	------------
Virginia	77, 900	72, 100	------------
Washington	39. 200	35, 300	------------
West Virginia	40, 800	35, 700	------------
Wisconsin	49, 300	44, 100	------------
Wyoming	10, 800	10, 200	------------
Guam	10, 400	10, 900	------------
Puerto Rico	115, 100	102, 200	------------
Virgin Islands	8, 100	8, 100	------------
Total	3, 250, 000	2, 900, 000	------------

Allocations of special project grant funds for tuberculosis control

State or territory	1963 actual	1964 estimate	1965 estimate
Alabama	$71, 306	$73, 775	
Alaska	18, 300	36, 030	
Arizona	100, 009	101, 756	
Arkansas	43, 000	50, 090	
California	134, 411	256, 454	
Colorado	26, 360	23, 113	
District of Columbia	22, 107	77, 899	
Florida	63, 808	72, 976	
Georgia	57, 856	49, 329	
Hawaii		40, 000	
Illinois	19, 657	42, 136	
Kentucky	16, 802	18, 242	
Maryland	18, 455	20, 874	
Massachusetts	85, 406	69, 263	
Michigan	13, 252	17, 300	
Mississippi	33, 733	39, 254	
Missouri	10, 344	20, 296	
New Jersey	35, 885	44, 557	
New York	92, 529	174, 921	
North Carolina	8, 141	28, 520	
Pennsylvania	174, 644	167, 512	
Rhode Island	22, 452	26, 677	
South Carolina	31, 035	42, 205	
Tennessee	53, 552	41, 155	
Texas	53, 053	37, 163	
Vermont	7, 000		
Virginia	28, 929	34, 503	
Total	1, 242, 026	1, 606, 000	[1] $4, 000, 000

[1] These grants are allocated on a special project basis.

Research, training, and technical services

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	195	$1, 434, 700	195	$1, 452, 700		+$18, 000
Other expenses		910, 300		911, 300		+1, 000
Total	195	2, 345, 000	195	2, 364, 000		+19, 000

SUMMARY OF PROGRAM

Research	140	$1, 521, 000	140	$1, 529, 700		+$8, 700
Technical services and training	55	824, 000	55	834, 300		+10, 300
Total	195	2, 345, 000	195	2, 364, 000		+19, 000

	1964 estimate	1965 estimate	Increase (+) or decrease (−)
Research	$1, 521, 000	$1, 529, 700	+$8, 700

Research activities of the Tuberculosis Branch are directed toward widening knowledge in three areas essential to the public health control of tuberculosis: (1) definition of risk, (2) effects of preventive measures, and (3) consequences of treatment. Resources are continually focused and refocused on different aspects as new knowledge in one area illuminates some aspect of another problem.

Risk, in tuberculosis, has two aspects, risk of infection and risk that infection will progress to clinical disease. Risk of infection is rather low in the general population of this country but is concentrated in certain groups, especially contacts of active cases. In the prophylaxis trials, observation of uninfected persons who received placebo, an inert medicament given as a control, will continue to produce information about factors associated with risk of new infection. Information is being sought on risk of disease among those already infected, which is at the heart of the tuberculosis problem in this country. This information will come not only from the prophylaxis trials, but from skin testing of 100,000 naval recruits each year and of other population groups, from long-term studies of a population surveyed 16 years ago, as well as from animal experiments in the laboratory.

The long-term effect of isoniazid in preventing tuberculosis will continue to be measured through observation of the 70,000 participants in the various trials. First results of the trial among patients in mental hospitals, which were published in 1963, were consistent with those of earlier trials in showing the drug to prevent about three-quarters of the expected cases during the time it was being taken. In 1965, a study of the effect of "saturating" areas of high incidence with isoniazid will be undertaken in Alaska villages, bringing to nine the number of prophylaxis trials.

Current work on the consequences of treatment is concerned with the incidence of primary drug resistance in newly diagnosed tuberculosis patients, and the clinical significance of both primary and acquired drug resistance. These projects will continue in 1965, as will evaluation of pilot studies of new drugs and analysis of accumulated data on the characteristics of cases that do not respond to treatment. In addition, cooperative trials begun in 1964 to compare the effectiveness of drugs administered at longer intervals with the effectiveness of those taken daily will be continued. These are based on findings reportd by the British Medical Research Council from a study of 165 unhospitalized patients in Madras, India, which showed twice-weekly doses of isoniazid and streptomycin to be somewhat more effective than daily doses of isoniazid and para-aminosalicylic acid. The trials in this country will be on a larger number of patients and will be conducted in hospitals in order to eliminate any differences due merely to failure of patients to take daily doses of drugs.

Another new development that will receive special attention in 1965 is the evaluation of a blood test, which appears promising in its preliminary stages, to identify persons harboring living tubercle bacilli. The test is rather complicated in its present form, but if further trial proves it to be valid, work will begin on simplifying it and making it a practical diagnostic tool.

The increase of $8,700 represents built-in increases. There is no change in program level.

	1964 estimate	1965 estimate	Increase (+) or decrease (−)
Technical services and training	$824, 000	$834, 300	+$10, 300

The acceleration of tuberculosis control activities through the special project grant mechanism is revealing two urgent needs that will receive increased emphasis in 1965. These are (1) better recordkeeping and improved means to analyze records for better program direction, and (2) more readily available opportunities for physicians and nurses to refresh their knowledge of tuberculosis and reorient themselves in terms of the most recent developments from research.

Because every step in the control of tuberculosis involves a complex of procedures and because it is a long-term disease, the keeping of adequate, accurate, and meaningful records has always been an important function. By and large. individual records, those that enabled physicians and nurses to provide appropriate service to patients and their families, have been kept fairly adequately. The collection, summary, and analysis of information from such individual records for use in program supervision and planning have often been neglected or incomplete. When this is the case, the responsible health official cannot know how great a problem he has to deal with or how effective his program is.

In recognition that tuberculosis records are both difficult and vital, the tuberculosis program has for some years given technical assistance on recordkeeping to State and local health departments, and recently has provided for improvement of records in special project grant areas. Now the possible application of automatic data processing to help unravel the intricacies of tuberculosis records into helpful reports is being explored. In 1963, a feasibility study was completed which indicated that computer techniques have excellent potential in this area. During the current fiscal year, a computer program is being constructed that will make possible the use of automatic data processing in collecting and analyzing data on tuberculosis from local health departments so that current accurate detailed reports will be automatic. In 1965, this program, which hopefully will simplify and clarify the whole process, will be tried out in local communities.

Response to the opportunities provided in the past 2 years for physicians and nurses to receive short-term, highy concentrated training in modern concepts and practice of tuberculosis therapy and control has indicated the great need for such refresher courses. The program of protecting children from exposure to tuberculosis, to be launched in 1965, will require clear understanding of risk factors in tuberculosis on the part of many local physicians and nurses, as well as capability in prophylactic and therapeutic treatment. The professional education program in Denver, a project now operating through the cooperation of five agencies and institutions in Colorado, where notable expertise in tuberculosis has long been centered, will serve as a focus for expanded activities in 1965. Physicians and nurses will be trained to conduct refresher courses on tuberculosis for their colleagues in their own communities, and the faculty will take regional workshops and symposia to the field.

Tuberculosis staff personnel will continue to work with State and local health departments in efforts to improve the effectiveness of tuberculosis control activities. A demonstration of a child-centered prevention program now being carried on in one State will continue to explore various techniques. Laboratory work throughout the States will continue to be up-graded through training and development activities.

The increase of $10,300 is for built-in items. There is no change in program level.

Report of the Task Force on Tuberculosis Control

The Future of Tuberculosis Control

(A report to the Surgeon General of the Public Health Service by a task force on tuberculosis control in the United States)

U.S. Department of Health, Education, and Welfare—Public Health Service

FORMATION OF THE TASK FORCE

Tuberculosis was a very great burden to our grandparents' generation. It was the first cause of death at the turn of the century, whereas today it is the 16th. Perhaps this fact has lulled the Nation into the belief that tuberculosis will not be a burden to our grandchildren. On closer look, however, the facts are disturbing. The number of cases occurring, which today is a much more accurate measure of the disease than deaths, is too high for comfort, and it is being reduced too slowly. In 1962, there were 53,315 new cases reported, a reduction of less than 1 percent from the 1961 total.

In the spring of 1963, the House Appropriations Committee, in reporting on the appropriation to the Public Health Service for tuberculosis control, expressed real concern over the current degree of effectiveness of tuberculosis control efforts in the United States, and suggested that serious thought should be given to a study of the tuberculosis problem similar to that made by the Surgeon General's Task Force on Eradication of Syphilis.

Later in the year, Dr. Luther L. Terry, Surgeon General of the Public Health Service, asked seven men representing public health, medical education and practice, and the public to serve on a task force on tuberculosis. Dr. John D. Porterfield, coordinator of medical and health sciences at the University of California, was appointed chairman. When Dr. Terry invited the members to serve, he asked them to consider the present unsatisfactory situation in tuberculosis and to recommend steps the Public Health Service might take to remedy it.

MEMBERS OF THE TASK FORCE

John D. Porterfield, M.D., chairman, coordinator of medical and health sciences, University of California.
Joseph E. Cannon, M.D., director of health, State of Rhode Island.
Winthrop N. Davey, M.D., professor of internal medicine, University of Michigan.
Albert W. Dent. president, Dillard University, New Orleans, La.
Benno E. Kuechle, vice president, Employers Mutuals of Wausau, Wis.
Mark H. Lepper, M.D., head, Department of Preventive Medicine, University of Illinois.
Arthur B. Robins, M.D., director, Bureau of Tuberculosis, New York City Department of Health.

LUTHER L. TERRY, M.D.
The Surgeon General,
Public Health Service.

DEAR DR. TERRY: On behalf of the Task Force on Tuberculosis, I take pleasure in sending you this report on the future of tuberculosis control, containing recommendations for action by the Public Health Service which you requested in appointing the task force.

In its study, the task force found that tuberculosis is still a problem of considerable magnitude, that measures for its control are complex, that increased reduction in the incidence of tuberculous disease, and infection is achievable but will require augmented public health effort, wisely directed. The task force is convinced that added support for tuberculosis control during the next decade would be a sound investment in the future, consistent with this country's concern for coming generations. We believe that the course of action recommended in this report would promote the effectiveness of such an investment.

The members of the task force wish to express to you their appreciation for this opportunity to work with each other and with members of your staff on this plan for a dynamic public health program. We are impressed with the importance of the problem and hope that we worked wisely in outlining an approach to its solution.

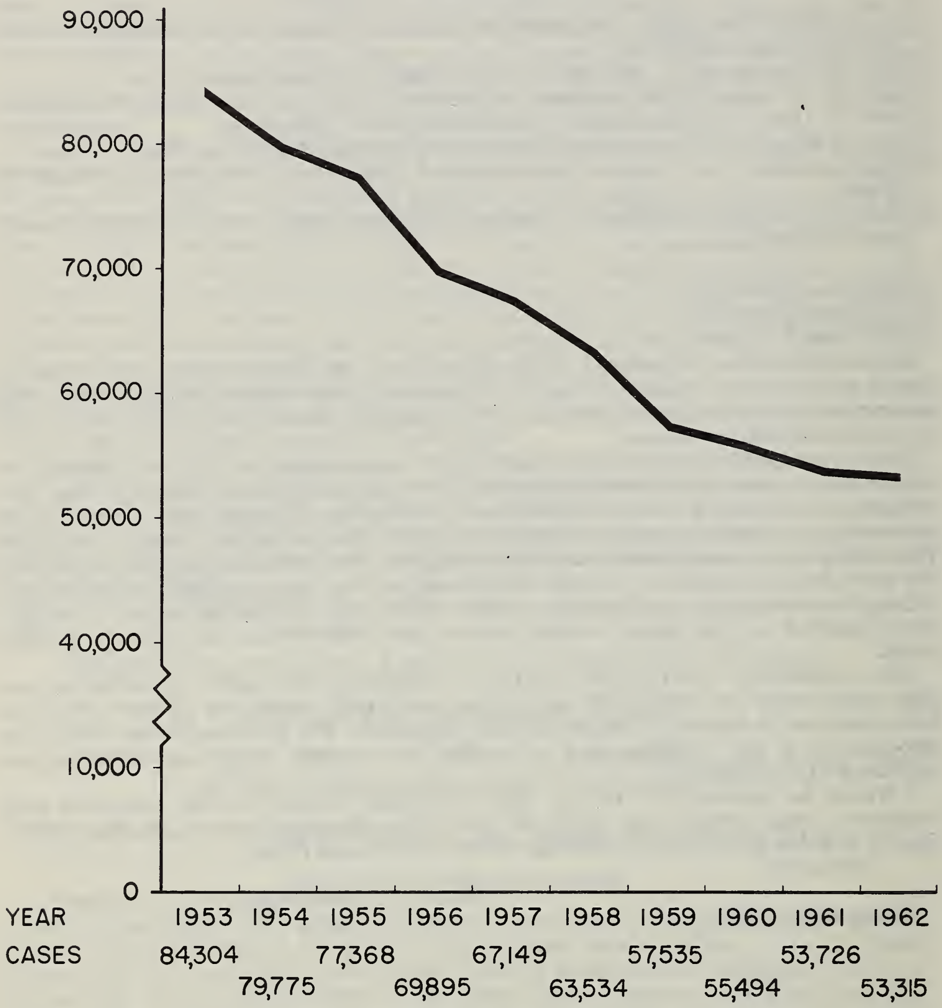
I would be remiss if I did not pay particular tribute to the attentive and intensive work which the staff of the tuberculosis program of the public Health Service did in facilitating the efforts of the task force.

Sincerely,

JOHN D. PORTERFIELD, M.D., *Chairman.*

DECEMBER 18, 1963.

NEW ACTIVE TB CASES REPORTED, 1953-1962
UNITED STATES



FOREWORD

More than 25 years ago, Wade Hampton Frost declared that the balance of nature was in favor of man against the tubercle bacillus. Over 10 years ago, drugs were discovered that made specific chemotherapy for the disease possible—therapy that has since been proved to be potentially effective in more than 95 percent of newly diagnosed cases. With nature on our side and powerful specifics against the disease, the conquest of tuberculosis seemed imminent. And yet today tuberculosis remains as a serious national health problem. The annual numbers of tuberculosis cases reported, which diminished sharply during the 1950's, have been reduced only slowly in the past 3 years.

Tuberculosis is proving to be more stubborn than was anticipated a decade ago. The tools that had been discovered then are not miraculous; their power is realized only from unfailing human effort in applying them. However, the task force refuses to accept as inevitable a continuing delay of progress against tuberculosis and believes that using more fully the means at hand will reduce greatly within the next 10 years the burden the disease places upon our society and the misery it causes for its victims.

THE STUBBORNNESS OF TUBERCULOSIS

The task force is concerned with the reasons for slackened progress insofar as these are due to inadequacies in applying the tools available. Before considering such inadequacies, however, the obstacles to control that are inherent in the disease itself should be considered, as well as certain limitations of present tools.

The disease itself

Most infections, whether they cause overt disease or not, are shortlived in the human host, either disappearing completely or causing changes in the body that result in lasting immunity. Unlike these, tuberculous infection, even when it does not develop into disease directly, remains dormant through a lifetime; in some persons, at some time during their lives, it is stirred into activity by stress. Infection does result in a certain amount of specific acquired resistance against subsequent exposure to the bacillus, but in this country today, the advantage of this specific acquired resistance is more than offset by the risk of a dormant infection breaking down into disease.[1] If poliomyelitis behaved in this fashion, for instance, a child infected at age 5 could proceed to age 20 without symptoms, and then become ill, suffer paralysis, and be able to shed polioviruses.

Furthermore, having active tuberculosis and recovering from it increases rather than lessens the likelihood of having the disease again. A person who has had one bout of measles and recovered is almost entirely safe from measles the rest of his life. But a person who has had tuberculosis is far more likely to have it again than one who has never had it. Drug treatment over a long enough period, however, reduces this likelihood.

The stubbornness of tuberculous infection is not a new phenomenon, but it was less apparent in the past. Fifty years ago, tuberculous infection was very common. Many of those infected developed active disease, especially young people, and many of these, perhaps most, died of it. Some people who were infected, of course, did not develop disease and lived on with their infection dormant. But people in general did not live as long then as they do now, so that active tuberculosis did not often develop from old infection before death of other causes occurred. Furthermore, when an elderly person did develop a "lung infection," tuberculosis was not usually suspected because it was thought to be a disease of young people.

Today the experience of our population is different. Many people now living have been infected but have not had clinical disease and life expectancy in general is much longer. There are in our population about 35 million of these people who harbor dormant tubercle bacilli in their bodies. Each year, some of them break down with tuberculosis; about 75 percent of the cases reported for the first time are thought to be due to such breakdown. In addition, an estimated 10,000 persons who have had tuberculosis and recovered have relapse of disease each year. These endogenous breakdowns and relapses are the means by which tuberculosis is perpetuated.

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[1] When infection progresses directly into disease, the disease is called exogenous. Disease that results from breakdown of infection acquired in the past is called endogenous.

Another special characteristic of tuberculosis is that even active disease does not usually cause noticeable symptoms until it is quite advanced. Other infections, such as polio, when they result in disease, cause symptoms that sound an unmistakable alarm. The symptoms of tuberculosis, on the other hand, are vague, easily ignored, easily attributed to other conditions. Awareness that a person has been infected, however, and consideration of tuberculosis as a possibility in terms of the relative degrees of risk now known make possible early diagnosis of tuberculosis. In recent years, use of prophylactic drugs has been shown to enable the actual circumvention of disease in some of those at high risk.

The present tools

Probably the most important modern tool in tuberculosis control is chemotherapy, and it is a very useful tool indeed, effective in most cases. The drugs, however, are capable of destroying the bacilli only when they are multiplying. Since tubercle bacilli multiply slowly and have the capacity to survive in a resting stage for years, the drugs must be administered continuously for long periods. If drugs are discontinued before most of the bacilli are destroyed, the residual population of bacilli may begin to multiply again and thus restore itself.

In any population of tubercle bacilli, some are mutants that are natively resistant to one or another of the drugs; for this reason two drugs are usually used together. Bacilli resistant to both are very rare in previously untreated cases. However, the drugs are not always completely successful, and in some cases with even the best continuous therapy, or when therapy has been inadequate or interrupted, disease does not respond to drug treatment. When this happens, resistant organisms multiply and more expensive and toxic secondary drugs must be used.

Diagnosis of tuberculosis is slow and rather laborious in all but advanced, highly infectious cases. The tuberculin test, which shows only whether or not a person has been infected, is imperfect because the tuberculins now available produce reactions due to infection by mycobacteria other than tubercle bacilli. Methods of identifying tuberculin reactions due to tuberculous infection and ways of improving the specificity of the tuberculin test are being sought in field and laboratory studies. Laboratory culture of tubercle bacilli is slow because of the slow growth of the organisms, although in recent years methods have been developed which reduce the time needed from 6 to 3 weeks. X-ray, useful as it is, is limited as a tool by the subtlety of changes appearing in the lung and by the difficulty of differentiating changes due to tuberculosis from those due to other conditions; furthermore, time must pass between X-rays in order to determine whether disease is active or inactive. A blood test that would indicate not only the presence of tuberculosis but activity of disease would enormously improve the potential of tuberculosis control and is the subject of research now in progress.

BCG, the vaccine against tuberculosis, is an attenuated live vaccine that offers some protection to those who have never been infected. In creating protection BCG causes vaccinated persons to react to tuberculin, thereby destroying the usefulness of a valuable diagnostic tool. The vaccine offers no protection to those already infected, among whom the majority of cases arise in this country.

The obstacles and limitations must be recognized in planning control activities, but they do not make further progress impossible. Stubborn as tuberculosis is, it can be controlled. In spite of their limitations, the tools available are very good tools. More intensive and efficient application of knowledge can reaccelerate progress against tuberculosis.

Applying the tools

Tuberculosis control resources in the United States began to be built up before the start of this century. At the time the antituberculosis drugs were discovered, resources for treatment of the disease were centered in sanatoriums, where therapy consisted mainly of months or years of bed rest. Health departments did have some clinics where patients, chiefly those on waiting lists for sanatorium beds, received pneumothorax or other lung collapse therapy. Public health nurses provided service, sometimes once or twice a week for months to patients on bed rest at home and helped their families to learn the isolation techniques considered necessary for their protection.

Casefinding at that time was accomplished chiefily through mass chest X-ray surveys of the general population, in whom a sufficient number of cases could be found to justify the procedure. Diagnostic facilities to provide service to persons whose chest X-rays suggested tuberculosis or to those whose symptoms made them seek medical care were available, but they were rarely adequate.

Today, most of the tuberculosis patient's treatment is received outside of the hospital. Although a period of hospitalization is still recommended for all patients, few patients now need bed rest, and chemotherapy brings about quite prompt improvement and reversal of infectiousness, therefore, greatly shortening the average necessary length of stay. At any given time, fewer than half of the known active cases are in the hospital, and probably many who are hospitalized could be at home if their communities had facilities to continue their care outside the hospital. Clinic or outpatient care, on the other hand, should continue for years after the patient leaves the hospital.

The families of patients do not need the repeated home visits over long periods of time that used to be the rule. What they do need is examination and prophylactic treatment, both of which they can receive more efficiently from a clinic.

The reduction in the amount of active disease to be found in the general population. and increased knowledge that both helps identify those at risk of tuberculosis and provides the means of reducing that risk, have altered the direction of effective tuberculosis control in the community. In most of the country, identification and repeated examinations of persons at risk should replace mass screening techniques that are no longer productive.

Adaptation of resources to the changed needs places for the time being an extra load on communities. While many tuberculosis hospitals have closed, those that remain are operating at increased cost. Indeed many of them, even at higher costs, have budgets inadequate for modern tuberculosis therapy, the needs of which more nearly resemble those of a general hospital than those of the tuberculosis sanatorium of previous time. Diversion of large amounts of money from hospitals, therefore, is as yet premature. But if hospital costs are soon to be significantly reduced, communities will need to build up clinic-centered programs both to provide years of continuing treatment for patients after hospitalization and to carry on activities that will prevent cases from occurring.

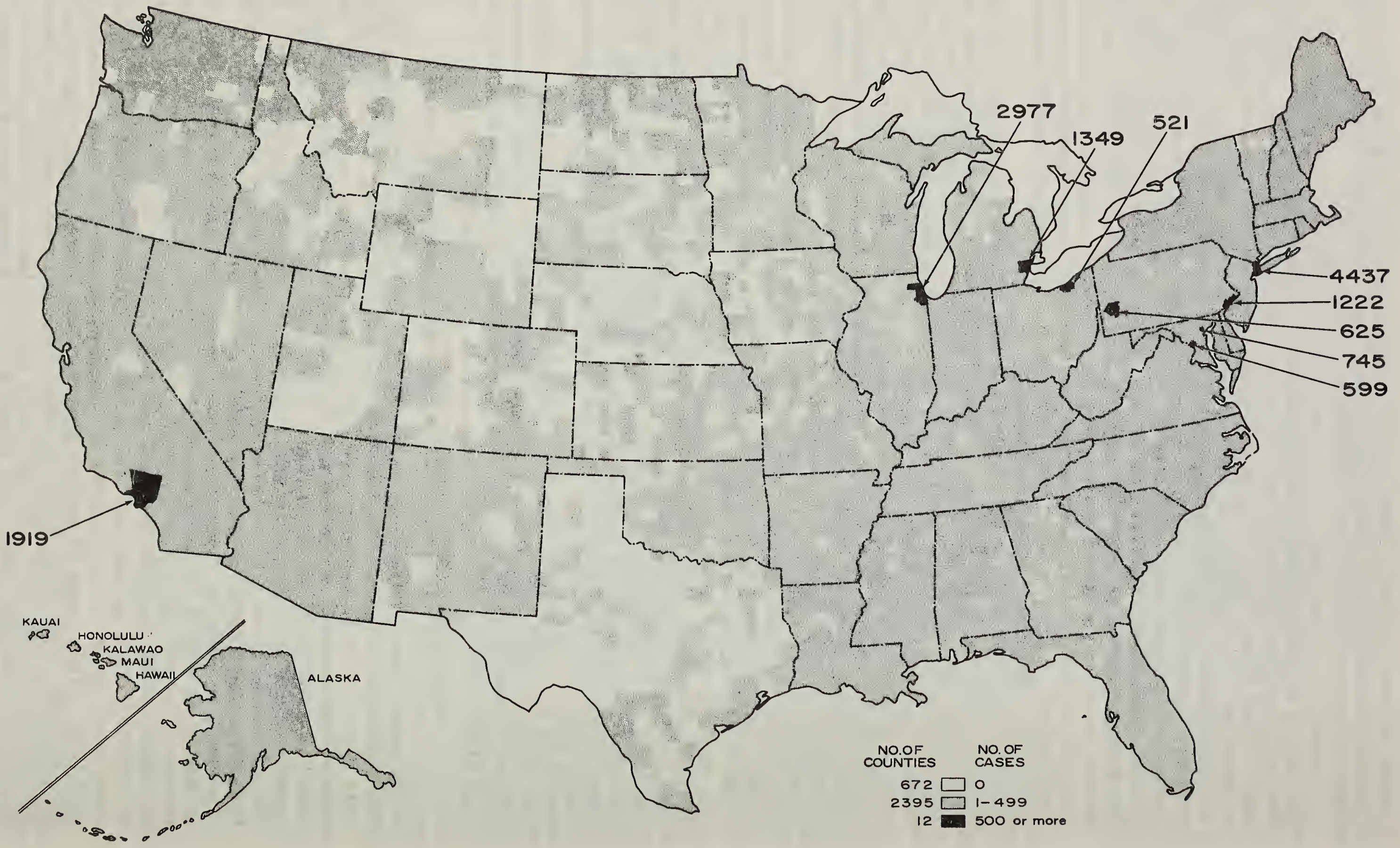
Blame for the slowing down of progress against tuberculosis undoubtedly lies, in part, with over optimism about what would be needed to finish the job. Realistic assessment of the situation and measures to increase and improve control efforts are in order.

THE SIZE AND DISTRIBUTION OF THE TUBERCULOSIS PROBLEM

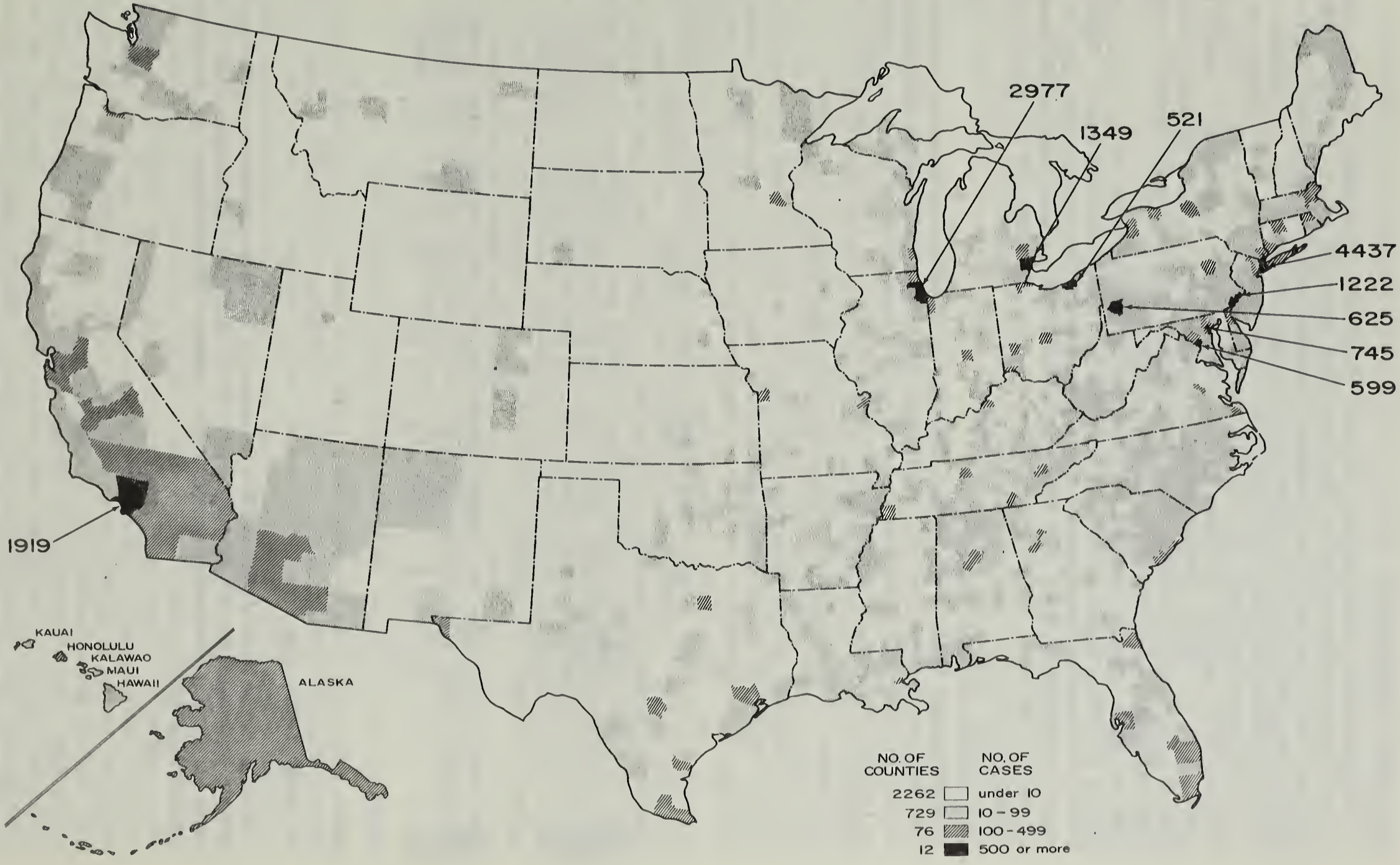
No single figure adequately indicates the size of the tuberculosis problem. The 9,506 deaths due to tuberculosis in this country in 1962, while they undoubtedly reflect much unnecessary waste of human life, do not represent the seriousness of the situation as deaths did in the days when they were the inevitable result of most cases of tuberculosis. The measure commonly used now is the number of new active cases reported each year. In 1962, this was 53,315 in the United States; however, this figure does not include relapses, which are estimated to add another 10,000 cases to the total annual incidence.

Actually, a realistic measure of the persons now directly affected by tuberculosis is the sum of the 110,000 known active cases on tuberculosis registers, the estimated 250,000 inactive cases whose disease was active less than 5 years ago, and the 250,000 contacts of newly reported cases: a total of 610,000 persons. In addition, other persons who are at special risk of tuberculosis, and especially those most likely to communicate it to others should they have it, need special attention. While some 35 million people in this country are estimated to have been infected (that is, to react to tuberculin), the great majority of these will not develop tuberculosis. An important part of the tuberculosis control job is to select the reactors who are at greatest risk to themselves and to others, and to provide for them continuing public health attention that can prevent the development of disease or minimize it.

672 COUNTIES REPORTING NO TB CASES AND 9 CITIES OR COUNTIES REPORTING OVER 500 CASES, U.S., 1962



DISTRIBUTION OF TB CASES IN THE U.S. BY COUNTY, 1962



Geographic distribution

Geographically, tuberculosis is very unevenly distributed in this country. Nine cities or urban counties each reported over 500 cases in 1962. (The city of New York had 4 counties in which over 500 cases were reported, and 1 county which reported only 37). These 9 areas had 14,394 cases, 27 percent of the total reported, and they have less than 16 percent of the total population.

At the other extreme, 672 or 21.8 percent of the over 3,000 counties in the United States reported no cases at all in 1962. They were chiefly counties in the North Central, Plains, and Rocky Mountain States. In most of them the population is rather small, but not in all. The total population of these 672 counties is 6,799,000 or 3.6 percent of the total population.

In a much greater number of counties, 2,262, fewer than 10 cases were reported in 1962; these counties had a total of 5,846 reported cases. Otherwise, 18,013 tuberculosis cases were reported from the 729 counties that had 10 to 99 cases; 14,480 cases from the 76 counties with 100 to 499; and 14,357 from the 12 with over 500. (County residence was not reported for an additional 619 cases.)

Distribution by age, race, and sex

While about half of the cases occurring in the United States in recent years have been in persons over 45 years of age, it is important to note that the number of cases occurring in persons under 25—the cases that are generally considered to be most readily prevented—constituted 20 percent of the total cases reported in 1962.

New active TB cases by age, United States, 1953–62

Year	Total		Under 15		15 to 24		25 to 44		45 and over	
	Number	Percent change	Number	Percent change	Number	Percent change	Number	Percent change	Number	Percent change
1953	84, 304		5, 244		10, 412		31, 488		37, 160	
1954	79, 775	−5. 4	5, 333	+1. 7	9, 585	−7. 9	28, 663	−9. 0	36, 194	−2. 6
1955	77, 368	−3. 0	5, 579	+4. 6	8, 725	−9. 0	27, 094	−5. 4	35, 970	−0. 6
1956	69, 895	−9. 7	5, 091	−8. 7	7, 515	−13. 9	23, 757	−12. 3	33, 532	−6. 8
1957	67, 149	−3. 9	4, 618	−9. 3	6, 866	−8. 6	22, 308	−6. 1	33, 357	−0. 5
1953–57 [1]		−5. 5		−2. 9		−9. 9		−8. 2		−2. 6
1958	63, 534	−5. 4	4, 821	+4. 4	6, 178	−10. 0	20, 449	−8. 3	32, 086	−3. 8
1959	57, 535	−9. 4	4, 322	−10. 4	5, 281	−14. 5	18, 364	−10. 2	29, 568	−7. 8
1960	55, 494	−3. 5	4, 388	+1. 5	4, 950	−6. 3	17, 217	−6. 2	28, 939	−2. 1
1961	53, 726	−3. 2	4, 886	+11. 3	4, 596	−7. 2	16, 240	−5. 7	28, 004	−3. 2
1962	53, 315	−0. 8	6, 036	+23. 5	4, 806	+4. 6	15, 522	−4. 4	26, 951	−3. 8
1958–62 [1]		−4. 4		+6. 1		−6. 7		−7. 0		−4. 1
1953–62 [1]		−4. 9		+2. 1		−8. 1		−7. 5		−3. 4

[1] Average percent change.

The increase from 1961 to 1962 in cases in the age group under 15 is at least in part due to improved reporting practices; the 1962 figures undoubtedly reflect more accurately the incidence of active primary tuberculosis than do figures for previous years.

New active tuberculosis cases, by age, race, and sex, United States, 1962

Age groups	Total	White			Nonwhite		
		Total	Male	Female	Total	Male	Female
All ages	53,315	36,012	24,325	11,687	17,303	10,526	6,777
0 to 4	3,044	1,662	816	846	1,382	655	727
5 to 14	2,992	1,560	763	797	1,432	658	774
15 to 24	4,806	2,807	1,409	1,398	1,999	886	1,113
25 to 44	15,522	9,339	5,805	3,534	6,183	3,646	2,537
45 to 64	17,182	12,667	9,885	2,782	4,515	3,390	1,125
65 and over	9,769	7,977	5,647	2,330	1,792	1,291	501

NOTE.—Cases for which age, race, or sex were not reported were distributed proportionately.

Cases in males constitute 65 percent of all cases reported. However, in the younger age groups, females have a higher proportion, especially among nonwhites.

Nonwhites have overall case rates more than 3½ times those of whites, but fewer than a third of all cases occur in nonwhites.

Other factors

At the present time in the United States, three-quarters of new active cases occur as a result of endogenous breakdown of infections incurred at some time in the past. Persons who have been infected are at greater risk if they are young children or young adults; if they also have diabetes or silicosis, or are under steroid therapy; if they have abnormal shadows on X-ray, even though these are not considered to represent active disease; or if they are are significantly under normal weight.

Uninfected persons are in danger of tuberculosis only if they are in contact with a person who has the disease in a communicable form. Tuberculosis is chiefly airborne, and bacilli must be carried on very minute particles in order to reach the air sacs of the lung where they can multiply. The danger to contacts is usually in prolonged close association. In relatively unusual instances, a person with advanced tuberculosis has exceptional capacity to discharge large numbers of bacilli into the air, and more casual contacts are then at risk. (The administration of antituberculosis drugs which control the patient's cough greatly reduces the risk to his contacts.)

Geographic distribution, distribution by age, race, and sex, and factors that increase risk need to be considered in order to direct tuberculosis control activities where they will be most effective.

A WORKABLE AND PRODUCTIVE COURSE OF ACTION

Rational orientation of tuberculosis control activities is toward those persons in the population who most need service. Because tuberculosis is communicable, these services are in the interest of the community as well as of the recipients. Complete treatment of each person who has tuberculosis not only insures his recovery but protects others from his disease. Every case that is found early, before it has become communicable, prevents the spread of infection. Even more effectively, infection is prevented when persons at special risk are identified and given service to preclude the development of communicable tuberculosis.

Because tuberculosis control services, however they benefit individuals, are given for the protection of the community, commonsense dictates that everyone who is judged to need them should be eligible to receive them at no cost, whether or not he is a legal resident of the community, and whether or not he has complied with all the rules and regulations. Many of the persons who need attention in the interests of tuberculosis control do not have physical discomfort that would motivate them to seek or accept service, especially over long periods of time. The most skillful persuasion will be futile if services are restricted.

In the following pages are described the persons for whom adequate services must be available if progress against tuberculosis is to gain headway. In all communities, active and inactive cases and contacts of newly reported cases have first priority for the attention of the community. Activities to identify cases and persons at risk of tuberculosis must be planned in terms of each community's problem and its social pattern. Any readymade plan for a Nation so various as ours will require certain alterations to fit different communities. However, the task force believes that the framework of this plan is basically sound and can be adapted to local situations for the country as a whole.

Persons who have tuberculosis

The person known to have active disease has first priority in control services. When disease is diagnosed, patients need help in understanding it and in making arrangements for hospitalization. When they leave the hospital, they need continuing uninterrupted care, including frequent clinic visits, X-rays, laboratory tests. For most of them, at least a few home visits are necessary to help them learn to adjust to their disease in their normal environment and to encourage them to stay with extended treatment. Patients and their situations vary; some require a great deal of attention, others relatively little. However, whatever is necessary should be available, not only to insure continued progress toward physical recovery but to create in the patient the conviction that his treatment is important. When patients leave the hospital against advice and cannot be persuaded to return, special effort must be made to keep them on adequate drug therapy that will help them to recover and at the same time reduce the possibility of their spreading disease. If all the 64,000 unhospitalized patients with active disease now on current tuberculosis registers in the United States were receiving such treatment, the total annual cost, estimated on the basis of present costs for services, drugs, X-rays, and other expenses, would be $14,400,000.

When disease becomes inactive, less intensive service is needed, but most patients should continue on drug therapy for at least 2 years. During that time, which is a critical period in preventing relapse, the patient does not need as frequent medical, X-ray, and laboratory examinations as when his disease was active, but continuing frequent visits to the clinic help insure that he takes his drugs, that toxic reactions are dealt with if they occur, and that he continues to stay well.

After completion of drug therapy, patients with inactive disease should continue to have semiannual examinations. Since most relapses in patients who have received drug therapy occur during the first 5 years after the disease has become inactive, the necessary examinations for these patients should be a part of the control program until the end of that time.

It is estimated that there are 250,000 patients with inactive disease who have had active disease within the past 5 years. The total annual cost of appropriate therapy and periodic examinations for these people should approximate $15,400,000.

Contacts of newly reported cases

Contacts of newly diagnosed cases not only have a considerable likelihood of having active disease themselves (19 per 1,000), but they have a high risk of developing disease during the year after diagnosis of the index case (8.5 per 1,000). This risk is greatly reduced by the prophylactic administration of isoniazid, and not only should all contacts be examined at least twice, but they should receive drug treatment for a year if this is at all feasible. In most instances, contacts of tuberculosis cases respond quite readily to services offered, even those who are not members of the immediate family but have been closely associated with the patient. In some situations, however, as in slum areas of big cities, or among migrant workers, continuing supervision of contacts is impossible, and the probability of their taking daily doses of drugs for a year is slight. For the nonreactors among these people, BCG should be given. Vaccination does not preclude the necessity of continued efforts to reexamine members of the contact group.

If all of the 250,000 contacts of cases first reported within the last year received all of the services they need, the total annual cost would be $8 million.

Other persons at risk of tuberculosis

Adequate attention to known cases and their contacts prevents the spread of tuberculosis infection. However, persons once infected can develop disease and spread infection before it is diagnosed. Therefore, absolute prevention of the spread of infection would mean developing a population in which no one was infected. Specific efforts to prevent children from being exposed to tuberculosis, allowing them to grow up without being infected, are needed for ultimate conquest of the disease.

In a controlled society, everyone who ever associated with children could be forced to be examined for tuberculosis at stated intervals. Such a situation, even if it were desirable, would waste much public health effort needed for other problems. A more practical approach is to seek, where they are most likely to be found, the persons who could infect children. The child who is already infected when he first enters school provides a clue. Granted that it is too late to prevent his infection, still finding the source of it will protect others. Children live in a world in which there are other children—brothers and sisters, cousins, playmates—some older, some younger. In most areas, a child's environment until he goes to school is sufficiently circumscribed that identifying the person in that environment who has or has had tuberculosis is possible, so that other children will be protected. (In crowded neighborhoods of the largest cities where the population is highly mobile, attempting to find the source of even young children's infection may be unproductive at the present time.)

The proposal, therefore, is that all children be tuberculin tested at first entrance to school. Those who react will be given a chest X-ray, and their families and other persons with whom they have been closely associated will be tuberculin tested.

The associates who react will receive a chest X-ray. If they are preschool children, they will be given a course of prophylactic isoniazid. Adult reactors will receive whatever diagnostic service they need, and those who fall into high-risk groups because of their X-ray findings, age, weight, or health problems will receive a course of prophylactic isoniazid and/or periodic examination as long as they are associated with children.

As a part of the program, all schoolteachers and other school employees will be tuberculin tested, and nonreactors scheduled for annual tuberculin tests. Reactors will be X-rayed and scheduled for periodic reexamination according to their risk status.

Children who have been infected are at low risk of disease from about school entrance until puberty. In adolescence through young adulthood, their risk is high. To reach these young people, it is proposed that all 14-year-olds in school be tuberculin tested. The reactors will be X-rayed and in addition will receive special personal explanation of their situation and be encouraged to have periodic examinations during their high-risk period and at least through their own child-rearing age. A few may also be given prophylactic drugs.

This child-centered approach will require more services than are available in most communities. Provision for continued followup of persons at high risk must take into account that for some years to come the number of identified persons in this group who will need periodic examination will grow.

A complete program aimed in this manner at reduction in the number of infections in young people, providing all the necessary examinations and reexaminations and prophylactic treatment when indicated, would cost the Nation as a whole an estimated $15,500,000 annually.

In communities where there is little tuberculosis, if contacts of any cases that do occur and persons who are associated with children receive complete service, and if diagnostic service is available for persons who have symptoms or are referred by physicians, other activities aimed at reducing the spread of infection may be unnecessary. In areas of higher incidence, however, additional screening of certain population groups is still appropriate.

Because breakdown of tuberculous infection into disease apparently results from stress, persons who suffer from other illnesses have higher rates of tuberculosis than those who are well. This has been found to be especially true in the patient populations (both inpatient and outpatient) of large city public hospitals. Chest X-ray examinations of these patients, with complete coverage and followup, would detect not only the active cases of tuberculosis in this high-risk population but also persons with suspicious X-rays; many of whom could be prevented from developing active disease by prophylactic treatment.

For persons identified as tuberculosis "suspects" (that is, those whose chest X-rays suggest tuberculosis) in hospital screening and for suspects referred from other sources, complete diagnostic service must be available. This includes not only medical, additional X-ray, and laboratory examinations, but in some instances personal visits to the suspect to explain to him the necessity for diagnosis. Those who have active disease are, of course, referred for hospitalization. Many of the others should receive a course of prophylactic drug therapy.

Routine chest X-rays for the more than 2.5 million people receiving service from public hospitals every year in cities of over a quarter million population, plus the diagnostic services and prophylactic drug treatment needed for these and other tuberculosis "suspects," would cost about $12,500,000 annually.

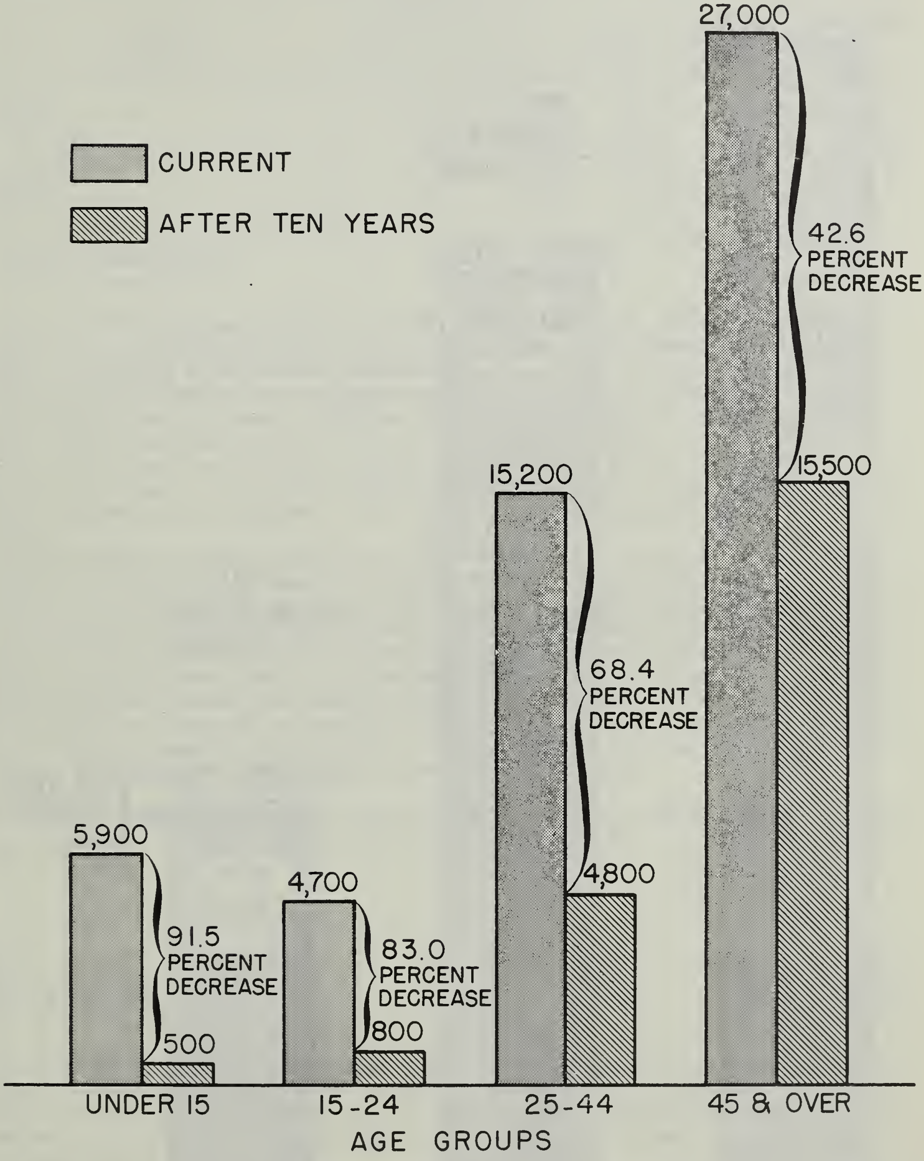
What this course of action would cost

The cost of actual services included in the program described above are summarized here:

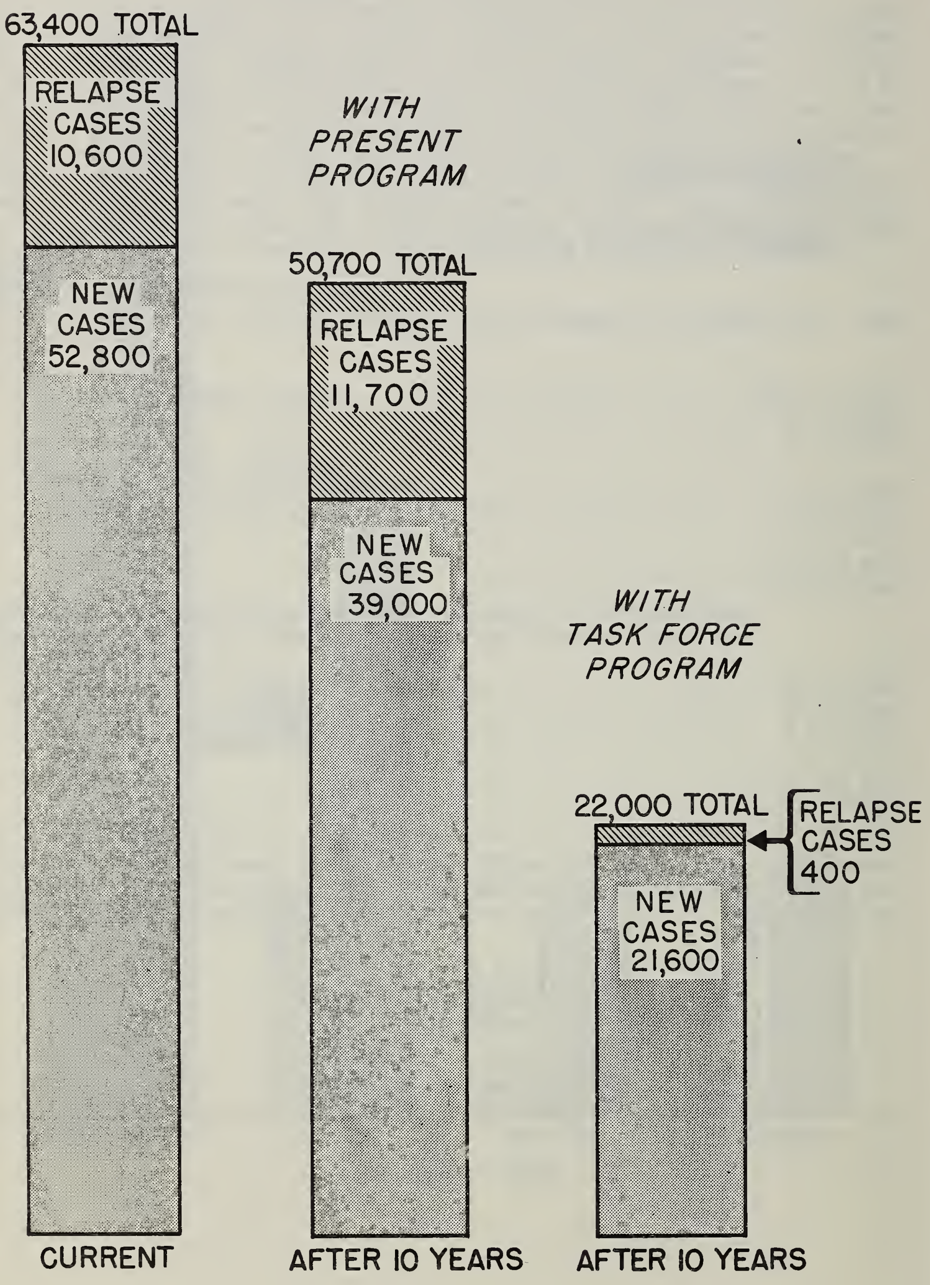
Services for—	
Unhospitalized active cases	$14, 400, 000
Inactive cases	15, 400, 000
Contacts of new cases	8, 000, 000
Persons at risk of tuberculosis:	
Children and their associates	15, 500, 000
Hospital admissions and "suspects"	12, 500, 000
Total	65, 800, 000
Present annual expenditures for these purposes, or for activities that could be diverted to these purposes (such as school tuberculin testing programs), by—	
State and local governments	32, 500, 000
Tuberculosis associations	8, 000, 000
Federal grants to the States	4, 500, 000
Total	45, 000, 000
Additional funds needed	20, 800, 000

For the present, at least, the additional $20,800,000 needed for an increased effort that would bring about more rapid progress against tuberculosis is not available from moneys now appropriated at local, State, or Federal levels.

EFFECT, AFTER TEN YEARS, OF TASK FORCE PROGRAM ON NUMBERS OF NEW ACTIVE TB CASES REPORTED, BY AGE GROUPS



REDUCTION AFTER TEN YEARS IN TOTAL TB CASES REPORTED ANNUALLY



What this course of action would accomplish

Careful consideration of the expected effect of the suggested course of action indicates that it would bring about a vast improvement in the situation within the next 10 years. In the 10th year, the total number of new active cases reported would be 21,600, only about 40 percent of the 1962 number.

Estimated 10-year effect of task force program on the number and rate of new active TB cases by age

Age group	Under 15	15 to 24	25 to 44	45-plus	All ages
New cases:					
1962	6,036	4,806	15,522	26,951	53,315
Current [1]	5,900	4,700	15,200	27,000	52,800
10th year	500	800	4,800	15,500	21,600
New case rate: [2]					
1962	10.4	18.2	33.3	49.4	28.7
10th year	.8	2.2	10.0	24.9	10.1

[1] Current estimated for 1963.

[2] Per 100,000 population.

The reduction in cases and case rates would, of course, be much sharper in younger persons whose disease is more often exogenous. However, the program could be expected to accelerate reduction even in cases among persons over 45.

The second decade of such a program could be expected to continue an accelerated reduction in cases. Although the rate of decline in cases in younger people would undoubtedly slow down, the program would by that time have greater effect on the older age groups, because some of the uninfected young people would have moved into middle age. By the end of the second 10-year period, therefore, the number of new cases reported annually would be about 9,000.

If tuberculosis control continues at its present pace, the number of new cases reported in the 10th year would be 39,000, or 70 percent of the present number. At the end of 20 years, there would still be as many as 29,000 new cases.

In addition to reducing the number of new cases reported, the proposed program would have an even more profound effect in reducing the number of relapses. At the present time, every year about 10,000 persons who have previously had active tuberculosis and recovered have a reactivation of disease. During 10 years of the proposed program, the number of relapses could be expected to drop to 400, a reduction of 97 percent. If the current program continues, however, we would have 11,700 relapses reported in the 10th year.

Estimated relapses, after 10 years, with present program and with task force program

Year	New active cases	Relapses	Total
1962	53,315		
Current	52,800	10,600	63,400
With present program, 10th	39,000	11,700	50,700
With task force program, 10th	21,600	400	22,000

Several activities in the proposed program would operate toward preventing relapse: complete treatment of active cases, treatment of all inactive cases during the period of highest risk of relapse, identification and prophylactic treatment of persons at high risk (some of whom would be previously untreated inactive cases).

In order to insure annual reductions, the program would have to continue at a high level for the ensuing 10 years. At the end of that time, there would, of course, be many fewer new cases, relapses and contacts needing service, but the number of persons needing periodic examination and/or prophylaxis would be much greater. The proposed increase in public health expenditures during the next 10 years, however, would be more than offset by the reduction of costs for tuberculosis hospitalization which, at the present time, are estimated to be $192 million a year for State and local hospitals.

Estimated State and local tuberculosis hospital cost, after 10 years, with present program and with task force program

Year	New and relapse cases	Average daily hospital census	Cost per patient per day	Annual hospital cost
Current	63,400	38,040	$13.83	$192,000,000
WITH PRESENT PROGRAM				
10th	50,700	30,420	20.00	222,000,000
WITH TASK FORCE PROGRAM				
10th	22,000	6,600	40.00	96,400,000

NOTE.—All money figures given in 1963 dollar value.

The saving in hospital costs would be significant even though unit costs during the 10th year could be expected to be twice as high, since most patients would be hospitalized in either general hospitals or big city tuberculosis hospitals, where costs are highest. The saving would be due to fewer cases occurring and, in addition, to shortened average periods of hospitalization that would result from the reduction of relapses.

The task force considers the proposed course of action practical as well as highly promising, and recommends that the Public Health Service make an effort to obtain appropriations from Congress for grants to the States specifically directed toward its implementation.

DEVELOPMENT OF RESOURCES

Manpower

In most parts of the country, adequate physical facilities for increased tuberculosis control activities are available or could be made so with relative ease and low expense. With sufficient budgets, drugs and X-rays could be purchased. Staff for the services are somewhat more difficult to add, particularly staff with special professional training. During the past decade, few physicians have elected to take special training in tuberculosis, and many who practiced in the field have left it and have not been replaced. The amount of time allotted to tuberculosis is undergraduate medical and nursing curriculums is short.

Relatively few medical specialists in tuberculosis will be needed in the future, but many physicians will need depth of understanding of the disease to enable them to treat some patients and provide care to people at risk. The need is for training opportunities and also for motivation of interest in tuberculosis. Tuberculosis is exceedingly interesting to most physicians once it has their attention and part of what must be done to meet the professional manpower needs, present and future, is to catch the interest of physicians at some time during their training or career.

A thoughtful plan, not only to increase present professional competence in tuberculosis but to insure preservation of competence that will be needed in years to come, includes several aspects:

1. Clinical fellowships in tuberculosis at schools of medicine, to insure available replacements when present faculty members retire.
2. Exploration of new teaching methods and devices, to find ways of improving the use of undergraduate curriculum time assigned to tuberculosis.
3. Extension of opportunities now available through the Public Health Service for physicians and nurses to receive refresher training through short courses, workshops, and symposia.

4. Wise use of personnel for the tasks in tuberculosis control that do not require specific professional training: encouraging adequate staffs of clerks and aids in local programs so that physicians' and nurses' time can be put to best use; development of a cadre of persons trained to aid tuberculosis control officers in carrying out nonprofessional duties, liaison, and coordination functions in State and local programs.

Because the task force believes that the success of tuberculosis control efforts hinges on the quality of staff activities, it recommends that the Public Health Service take positive action in each of the four areas enumerated above.

Central records service

In the past, the concern of tuberculosis records was chiefly with current patients with active disease. Modern tuberculosis control will increasingly require long-term records on many other types of persons: inactive cases, contacts, and those at special risk. The mobility of the population, which already complicates recordkeeping, will severely limit the program usefulness of local records in the future. Furthermore, the practice of periodic censuses of patients is no longer adequate in program planning even for active cases, and detailed current information must become available.

In an effort to meet the growing needs, the applicability of computer techniques has been explored, and automatic data-processing methods have been shown to have great potential. A central service could provide frequent current reports to local health departments for their use in program direction and could also provide intelligence at the national level for planning, evaluation, and epidemiologic studies.

The task force recommends that the Public Health Service continue its work of developing a tuberculosis central records service.

New knowledge

The task force is primarily concerned with the improved application of present knowledge rather than the development of new knowledge. In some instances, however, especially with a long-term disease like tuberculosis about which new knowledge emerges rather slowly over extended periods of observation, the development of knowledge and its application are closely tied together. The studies that have been conducted by the Public Health Service over the past 20 years have continually produced information that sharpened available tools of control. The task force believes that studies now in progress should be continued, and that new studies should be undertaken on the dynamics of tuberculosis in urban populations in the United States, which have a large and increasing share of the problem.

RECOMMENDATIONS

I. The task force recommends that the Public Health Service request increased appropriations to be used to raise the level of tuberculosis control activities so that modern knowledge of the disease can be applied to its fullest potential. Specifically, the task force recommends that grants to the States be made available for the following activities:

A. Services to unhospitalized active cases, inactive cases for 5 years after disease becomes inactive, and contacts of new active cases.

B. Identification of persons at risk through (1) tuberculin testing of children entering school and examination of reactors' associates; (2) examination of schoolteachers and employees; and (3) routine hospital admission X-rays in public hospitals in cities of over 250,000.

C. Continuing periodic examination of persons at risk and prophylactic treatment when indicated.

The task force further recommends that the levels of appropriation for tuberculosis control requested by the Public Health Service during the next 10 years include the following amounts for grants to the States:

Grants

Year	Formula	Special project	Year	Formula	Special project
1st	$2, 700, 000	$10, 000, 000	6th	$4, 200, 000	$25, 000, 000
2d	3, 200, 000	15, 000, 000	7th	3, 700, 000	20, 000, 000
3d	4, 200, 000	25, 000, 000	8th	3, 700, 000	20, 000, 000
4th	4, 200, 000	25, 000, 000	9th	3, 200, 000	15, 000, 000
5th	4, 200, 000	25, 000, 000	10th	2, 700, 000	10, 000, 000

II. The task force believes that it is in the interest of the Nation's health that services necessary for tuberculosis control be available to all persons who need them without regard to their ability to pay or legal residence, and that they should not be withheld as a means of punishment. It therefore recommends that services provided under grants to the States be thus free of restriction.

III. In recognition of the pressing need not only for improvement of the skills of present workers in tuberculosis control but for the preservation of professional competence to meet future needs, the task force recommends that the Public Health Service carry on the following activities:

A. Establishment of at least six teaching fellowships in tuberculosis in medical schools located in various parts of the country.

B. Exploration of a means of improving the use of undergraduate curriculum time allotted to tuberculosis in schools of medicine and nursing.

C. Expansion of present activities to provide opportunities to physicians and other propessional workers for refreshing and bringing up to date their knowledge of tuberculosis through short courses, symposia, and workshops.

D. Recruitment and training of able persons for assignment to the States to work in tuberculosis control. Such a cadre of trained personnel should reach a total of 100 within 3 years.

IV. In the control of this long-term disease, in which many people must receive periodic service in some cases for a lifetime, useful and dynamic records are a necessity. The task force is of the opinion that a central service using automatic data processing techniques would be invaluable in tuberculosis control, both to local areas and to the national effort, and it recommends that the Public Health Service continue to work toward establishing such a service.

V. The task force recommends that appropriations requested by the Public Health Service for tuberculosis control include amounts for funding of the activities described in III and IV above. This would mean that appropriations for technical services and training would reach $1,630,000 by the fourth year and remain at that level for the rest of the decade.

VI. While the task force feels strongly that present knowledge should be applied to the fullest, it realizes that new findings are also essential to rapid progress and believes that such efforts should be encouraged. It recommends continuation of Public Health Service tuberculosis studies and the addition of studies of the epidemiology of tuberculosis in cities in the United States. The task force recommends that appropriations requested by the Public Health Service for tuberculosis control include amounts for research that would reach a level of $2,120,000 by the third year and remain at that level for the rest of the decade.

CONTROL OF VENEREAL DISEASES

WITNESSES

DR. WILLIAM J. BROWN, CHIEF, VENEREAL DISEASE BRANCH
DR. AARON W. CHRISTENSEN, DEPUTY CHIEF, BUREAU OF STATE SERVICES
EDWARD F. TUERK, CHIEF, OPERATIONS AND DEVELOPMENT UNIT
LELAND W. SMITH, FINANCIAL MANAGEMENT OFFICER
JOHN W. HAMBLETON, FINANCIAL MANAGEMENT OFFICER FOR COMMUNITY HEALTH PROGRAMS
DR. LUTHER L. TERRY, SURGEON GENERAL
HARRY L. DORAN, CHIEF FINANCE OFFICER
JAMES F. KELLY, DEPARTMENT BUDGET OFFICER

Mr. FOGARTY. Dr. Brown, I hope you have a better story on VD than they had on TB.

Object classification

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
11 Personnel compensation:			
Permanent positions	2,163	2,423	2,529
Positions other than permanent	1,617	3,200	3,200
Other personnel compensation	23	40	31
Total personnel compensation	3,803	5,663	5,760
12 Personnel benefits	281	374	382
21 Travel and transportation of persons	206	254	261
22 Transportation of things	57	63	63
23 Rent, communications, and utilities	26	25	25
24 Printing and reproduction	51	91	91
25 Other services	113	148	150
Services of other agencies		13	13
Research contracts	141	163	163
Payment to Bureau of State Services management fund	62	93	95
26 Supplies and materials	155	135	137
31 Equipment	74	60	60
41 Grants, subsidies, and contributions	2,596	2,526	2,526
Total obligations	7,564	9,607	9,725

Personnel summary

	1963 actual	1964 estimate	1965 estimate
Total number of permanent positions	330	344	344
Full-time equivalent of other positions	323	640	640
Average number of all employees	620	952	958
Employees in permanent positions, end of year	279	325	325
Employees in other positions, end of year	422	714	714
Average GS grade	8.8	8.8	8.8
Average GS salary	$7,355	$7,850	$7,850

Program and financing

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
Program by activities:			
1. Project grants	4,327	5,895	5,895
2. Research, training, and technical services	3,211	3,696	3,830
Total program costs, funded [1]	7,538	9,591	9,725
Change in selected resources [2]	26	16	
Total obligations	7,564	9,607	9,725
Financing:			
Comparative transfers to other accounts	406		
Unobligated balance lapsing	29		
New obligational authority	8,000	9,607	9,725
New obligational authority:			
Appropriation	8,000	9,588	9,725
Proposed transfer from "National Heart Institute" due to Uniformed Services Pay Act of 1963		19	

[1] Includes capital outlay as follows: 1963, $72,000; 1964, $59,000; 1965, $60,000.

[2] Selected resources as of June 30 are as follows: Unpaid undelivered orders, 1962, $59,000 (1963 adjustments, —$1,000); 1963, $84,000; 1964, $100,000; 1965, $100,000.

GENERAL STATEMENT

Mr. FOGARTY. Dr. Brown, we will now take up the budget for "Control of venereal diseases." Please proceed with your statement.

Dr. BROWN. Mr. Chairman and members of the committee, in December 1961 the report of the Surgeon General's Task Force, "The Eradication of Syphilis" was released. This report conceived the eradication of syphilis to be a practical goal for public health activity.

Funds for the implementation of the recommendations were made available to the Public Health Service beginning in fiscal year 1963 when $2 million was added to the appropriation.

Of this total, $1,750,000 was for grants to States. The appropriation was again increased in 1964 by $1,994,000, with $1,560,000 for grants. The budget before you of $9,725,000 provides for continuation of the current level of support for implementation of the task force report.

Substantial progress is being made toward carrying out the recommendations of the task force; 62,000 physician visits were made in 1963. This year we expect the level of physician visits to approach 150,000 and to climb over the 200,000 mark in 1965.

We think the physician visitation program is showing results. In 1963, physicians reported 1,266 more cases than they had in 1962, an increase of 18.5 percent, while clinic-treated cases climbed only 5.2 percent.

Another sign of progress in the eradication program is the diminished rate of increase in reported infectious syphilis that we are currently observing. For the first 6 months of fiscal year 1964, 11,515 cases were reported, an increase of only 2.3 percent over the comparable period in 1963. Although a variety of factors may affect the reporting of cases, we think that this slowdown does, in fact, reflect a leveling incidence.

Our educational program is gathering momentum. A subcommittee of our Public Advisory Committee has recommended the inclusion of venereal disease educational materials as an integral part of public and private school health and science courses and endorsed the development of a teachers' guide to aid teachers in achieving this end.

Research toward the end of developing a syphilis vaccine is continuing, although with somewhat different emphasis than in the past. We are now undertaking experiments to determine if the *Treponema cuniculi* which causes syphilis in rabbits can be used to produce immunity to the *Treponema pallidum* which causes human syphilis much in the same manner as cowpox produces immunity to smallpox.

Behavioral research emphasis is being given to determining the factors which influence adolescent venereal disease risk-taking behavior; to determining the attitudes on the part of physicians which tend to influence their cooperation with health departments; and to a comprehensive review of the process of interviewing infectious venereal disease patients to determine what better motivational techniques might be introduced into the patient interview.

Mr. Chairman, I shall be glad to answer any questions you may have about this program or the budget request.

1965 BUDGET

Mr. FOGARTY. Thank you, Doctor. The appropriation for 1964 is $9,588,000 and the request for 1965 is $9,725,000, an increase of $137,000 which is just enough to cover the net mandatory costs?

Dr. BROWN. Yes, sir.

Mr. FOGARTY. This is no real increase. How does this budget conform to the recommendations of the task force report of December 1961?

Dr. BROWN. This comes within $305,000 of reaching the $4 million increase which was recommended by the task force.

REDUCTIONS IN ORIGINAL REQUEST

Mr. FOGARTY. What happened to that $300,000? Who cut it out?

Dr. BROWN. This was cut on the level of the Bureau of the Budget.

Mr. FOGARTY. The Department allowed it?

Dr. BROWN. The Department allowed the increase in project grants, yes, sir.

Mr. FOGARTY. Did they allow all increases that you asked for? No, I see they did not. They cut you down $110,000.

What was that for?

Dr. BROWN. That was to initiate an educational program in medical schools to teach medical students, interns, and residents.

Mr. FOGARTY. According to Dr. Goddard, this is very important in the field of tuberculosis. Do you think it is just as important in venereal disease as it is in tuberculosis?

Dr. Brown. Yes, sir, we feel it is. We have physicians who do not have a high index of suspicion about syphilis and we want to train them further.

Mr. Fogarty. So we are not keeping up to the level of the task force recommendation by $300,000, but that is the fault of the Bureau of the Budget.

Of course with increases, since the report, in pay costs and other mandatory increases, you are more than $300,000 short of task force recommendations.

For 1963, Congress appropriated $1 million more than you requested in order to get the program started. You are now in the second year.

You mention in your prepared statement, a slowdown, but there is still an increase of incidence over last year, is there not?

Dr. Brown. Yes.

PROGRESS TOWARD ERADICATION OF SYPHILIS

Mr. Fogarty. Well, just tell us what progress you think has been made toward the eradication of syphilis.

Dr. Brown. We feel, sir, that we have made real progress, more physicians are being visited each year, each month. Physicians are reporting their cases in greater numbers today than they did before this program was instituted. Physicians are allowing the interview of more of their patients now than they did in the past. Visits to laboratories have been increased. More reactive serologies are being reported to health departments, which thus helps us to find more cases more quickly.

Public awareness programs throughout the country have increased, bringing VD information to the general public.

We are working in the field of public schools and private schools and are getting VD education introduced into the curriculum. We have projects underway in the behavioral science field, hoping that the outcome of these studies will give us better information in how to communicate better with teenagers and the young adults.

Mr. Fogarty. What was this $300,000 going to be used for?

Dr. Brown. For project grants to States.

Mr. Fogarty. I see.

Dr. Brown. To meet their requests.

POSTWAR APPROPRIATION HISTORY FOR ERADICATION OF SYPHILIS PROGRAM

Mr. Fogarty. I assume you are familiar with the appropriation going back 15 or 16 years in this area?

Dr. Brown. Yes, sir.

Mr. Fogarty. Do you remember after the war we stopped appropriating funds for so-called rapid treatment centers.

Dr. Brown. Yes, sir.

Mr. Fogarty. As I remember, they were very good action programs. Do you want to take a few minutes and tell us about them, and what happened as a result of the reduction of the appropriations.

Dr. Brown. Yes, sir. I am familiar with this to the point that I was assigned to a rapid treatment center in the war years. During the latter part of the war, as I recall, appropriations did reach over $17 million. The greater part of this was toward the maintenance of these inpatient care centers, rapid treatment centers.

When penicillin was introduced into syphilis therapy in 1943 and as it became more readily available, it was used in these rapid treatment centers and then preparations were prepared so that it cut down the number of injections and also cut down the patients' stay.

When this reached the point of one single injection, it was no longer necessary to have these rapid treatment centers. Then the appropriations were cut accordingly since these were expensive institutions to maintain.

At that time, meaning when penicillin was available in one injection for treatment, treatment centers were closed and the patients then were referred to the Health Department Clinics or they went to practicing physicians.

It is our feeling that with the increased average income of people during the late 1940's and early 1950's, and when penicillin became available to physicians in one injection for treatment, more patients were going to physicians. Physicians then were treating a great deal more syphilis than they did before the war when treatment was complicated.

This we feel led to epidemiology not being done.

Let me go back for a moment. The contact interviewing was not done because physicians were not reporting the cases. As a result, it appeared the incidence line was going down faster than it actually was.

I believe it was the feeling of all of us in Public Health at that time that penicillin had this job under control and that we did not need the funds that we had needed in the past.

I think we were all guilty of this. When we realized that this was happening, that the patients were not being reported, that no epidemiology was being done, then we felt that we could control and hopefully eradicate syphilis only when we brought the practicing physician into a full partnership so that he would report and allow interviewing, and thus epidemiology could be done on these cases.

Epidemiology was being done on the cases that came out of public clinics and it was at that time that the trend line of reported syphilis went up, because more of them were coming into the clinics as walk-ins. They heard about lesions from their friends or from information that they received elsewhere and walked in. And the increase in number of cases began to be reported.

Then Public Health I think at all levels again became concerned with this problem, and this is when the appropriations were increased.

Mr. Fogarty. Well, it was kind of a shock when we were told about some of the increases in incidence 7 or 8 years ago; at the same time appropriations were being reduced every year. The high figure was, as you said, 1948 and 1949, when the appropriations were a little over $17 million.

Dr. Brown. Yes, sir.

I do not have that before me but this is to the best of my knowledge.

Mr. Fogarty. The appropriation got down to $3 million in 1955 and is up back now to $8 million, which is about what it was way back in 1953. Now, are you satisfied with the progress you are making, Doctor?

Dr. Brown. Sir, I think we are making progress. Those of us who have responsibility for the program are always eager to see progress made more quickly.

Mr. Fogarty. Do you not think you ought to have another $300,000?

Dr. Brown. I feel, sir, with this request that we can continue to make progress. With the additional funds, this can probably be hastened.

Mr. Fogarty. What is likely to be some of the consequences if you do not get the $300,000?

Dr. Brown. This would materially be about 50 persons available to the States for epidemiology, visiting private physicians and laboratories.

This amounts to in the neighborhood of 50 people.

Mr. Fogarty. Well, certainly it will not help in the eradication of this problem, will it, this cut?

Dr. Brown. No, sir.

Mr. Fogarty. Is there anything else you want to say?

Dr. Brown. No, sir, I believe not.

Mr. Fogarty. Thank you.

JUSTIFICATION MATERIAL

(Following is the justification material submitted to the committee:)

Control of Venereal Diseases

Amounts available for obligation

	1964	1965
Appropriation	$9,588,000	$9,725,000
Proposed transfer from National Heart Institute	+19,000	
Total	9,607,000	9,725,000

Obligations by activities

Description	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
1. Project grants		$5,895,000		$5,895,000		
2. Research, training, and technical services	344	3,712,000	344	3,830,000		+$118,000
Epidemiologic and casefinding services	249	2,820,100	249	2,929,500		+109,400
Syphilis research and services	56	510,900	56	517,200		+6,300
Nontreponemal research	39	381,000	39	383,300		+2,300
Total obligations	344	9,607,000	344	9,725,000		+118,000

Obligations by objects

	1964 estimate	1965 estimate	Increase or decrease
Total number of permanent positions	344	344	
Full-time equivalent of all other positions	640	640	
Average number of all employees	952	958	+6
Number of employees at end of year:			
Permanent positions	325	325	
Other	714	714	
11 Personnel compensation:			
Permanent positions	$2,422,900	$2,529,200	+$106,300
Positions other than permanent	3,199,900	3,199,900	
Other personnel compensation	39,800	31,200	−8,600
Total personnel compensation	5,662,600	5,760,300	+97,700
12 Personnel benefits	374,000	381,600	+7,600
21 Travel and transportation of persons	254,400	260,900	+6,500
22 Transportation of things	62,600	62,600	
23 Rent, communications and utilities	25,000	25,000	
24 Printing and reproduction	91,200	91,200	
25 Other services	147,600	149,700	+2,100
Services of other agencies	13,000	13,000	
Research contracts	162,600	162,600	
Payment to "Bureau of State Services management fund"	93,400	95,200	+1,800
26 Supplies and materials	134,700	137,000	+2,300
31 Equipment	59,600	59,600	
41 Grants. subisides and contributions	2,526,300	2,526,300	
Total obligations by objects	9,607,000	9,725,000	+118,000

Summary of changes

1964 enacted appropriation	$9,588,000
Proposed transfer from "National Heart Institute"	19,000
Total estimated obligations, 1964	9,607,000
1965 estimated obligations	9,725,000
Total change	+118,000
Increases:	
A. "Built-in":	
1. Annualization of step 2 of civil service pay increase	+53,300
2. Annualization of uniformed services pay increase	+7,000
3. Annualization of 14 positions new in 1964	+66,300
Total increases	+126,600
Decreases: 1. 1 less day's pay in 1965 (262 days in 1964; 261 days in 1965)	−8,600
Total net change requested	+118,000

Explanation of transfers

Transfer from—	1964, estimate	1965, estimate	Purpose
"National Heart Institute"	+$19,000	0	Proposed transfer due to Uniformed Services Pay Act of 1963.

Control of venereal diseases

	Budget estimate to Congress	House allowance	Senate allowance	Appropriation
1955	$2,300,000	$3,000,000	$3,000,000	$3,000,000
1956	[1] 3,147,100	3,616,000	3,647,100	3,616,000
1957	3,695,000	3,659,000	4,195,000	4,195,000
1958	4,415,000	4,415,000	4,415,000	4,415,000
1959	4,427,000	4,400,000	5,827,000	5,400,000
1960	4,673,000	5,400,000	5,400,000	5,400,000
1961 [2]	4,814,500	5,214,500	5,814,500	5,814,500
1962	5,814,500	5,815,000	6,090,000	6,000,000
1963	7,000,000	7,000,000	8,000,000	8,000,000
1964	9,588,000	9,588,000	9,588,000	9,588,000
1965	9,725,000			

	1964 estimate	1965 estimate	Increase or decrease
Project grants	$5,895,000	$5,895,000	

[1] Supplemental of $31,100 not considered by the House.
[2] Included in "Communicable Disease Activities" appropriation.

In December 1961, a task force appointed by the Surgeon General reported that the eradication of syphilis within the United States was a practical objective for public health activity. In order for this objective to be achieved, however, the task force stated that an intensive effort must be made to enlist the cooperation of private physicians; that all laboratories processing blood tests for syphilis must report reactive serologies to health departments; and that effective epidemiology must be applied to all reported cases.

In 1964, implementation of the task force report continues. The 1964 recommended appropriation included an additional increase of $1,560,000 for project grant support to States for eradication. The 1965 request includes $5,895,000, the same as in 1964 for these grants which are awarded on a special project basis to State and local health departments in high incidence areas. Plans for these grants include direct cash grants to the States and recruitment and assignment of employees to the States in lieu of cash grants. The increase in 1963 and 1964 provided for the employment of an additional 450 workers over the 2-year period. On assignment to State and local programs, these additional personnel alert physicians to the syphilis problem and to their responsibilities in its eradication. In 1963, 62,000 physicians were visited; this figure rises to an estimated 150,000 visits in 1964 and to 250,000 in 1965. Assignment of the new fieldworkers also allows application of proven syphilis control techniques to reported cases in a shorter period of time which, it has been calculated, will halt the spread of the disease with sufficient rapidity to achieve a downward trend in the incidence of syphilis.

Although progress is being made, the pattern of increases in cases of infectious syphilis which began in 1958 has continued. In 1963, 22,045 cases of primary and secondary syphilis were reported; an increase of 10 percent over 1962 and 253 percent over the 6,251 cases reported in 1957. The continuation of this trend confirms the necessity for the complete eradication of the disease to assure that the benefit of current public health interest and concern over syphilis will not be wasted.

Allocations of venereal disease special project grants

State or territory	1963 actual	1964 estimate	1965 estimate
Alabama	$63, 864	$70, 234	-------------
Alaska	6, 862	7, 000	-------------
Arizona	45, 737	68, 200	-------------
Arkansas	93, 591	100, 000	-------------
California	458, 919	817. 622	-------------
Colorado	8, 613	12, 392	-------------
Connecticut	15, 371	16, 577	-------------
Delaware	11, 217	13, 250	-------------
District of Columbia	86, 894	97, 835	-------------
Florida	216, 371	281, 447	-------------
Georgia	335, 940	340, 936	-------------
Hawaii	3, 216	3, 300	-------------
Idaho	7, 530	8, 550	-------------
Illinois	349, 376	495, 924	-------------
Iowa	11, 187	13. 584	-------------
Kansas	26, 355	30, 161	-------------
Kentucky	48, 026	53, 035	-------------
Louisiana	73, 940	90, 718	-------------
Maine	-------------	3, 000	-------------
Maryland	40, 889	72. 480	-------------
Massachusetts	3, 115	-------------	-------------
Michigan	125, 159	200, 225	-------------
Minnesota	6, 345	10, 375	-------------
Mississippi	47, 032	55, 768	-------------
Missouri	71, 950	90, 929	-------------
Montana	6, 721	13. 227	-------------
Nebraska	8, 510	12, 679	-------------
Nevada	17, 598	21, 377	-------------
New Hampshire	-------------	3, 000	-------------
New Jersey	155, 693	279, 161	-------------
New Mexico	41, 198	44. 136	-------------
New York	742, 304	1, 051, 121	-------------
North Carolina	180. 780	204, 150	-------------
North Dakota	16, 822	17, 905	-------------
Ohio	17, 024	27, 000	-------------
Oklahoma	35, 874	40, 000	-------------
Oregon	16, 323	36, 362	-------------
Pennsylvania	284, 019	413, 607	-------------
South Carolina	129, 504	145, 788	-------------
South Dakota	15, 096	16, 264	-------------
Tennessee	111, 585	116, 345	-------------
Texas	210, 687	268. 884	-------------
Utah	3, 542	3, 600	-------------
Vermont	-------------	6, 138	-------------
Virginia	90, 166	95. 996	-------------
Washington	22, 259	47, 500	-------------
West Virginia	21, 743	29, 643	-------------
Wyoming	374	5, 445	-------------
Puerto Rico	34, 783	34. 890	-------------
Virgin Islands	6, 923	7, 240	-------------
Total	4, 327, 027	5, 895, 000	[1] $5, 895, 000

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[1] Venereal disease control grants are allocated on a specific project basis.

Research, training, and technical services

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	344	$2,691,700	344	$2,797,000		+$105,300
Other expenses		1,020,300		1,033,000		+12,700
Total	344	3,712,000	344	3,830,000		+118,000
SUMMARY OF PROGRAM						
Epidemiologic and casefinding services	249	2,820,100	249	2,929,500		+109,400
Syphilis research and services	56	510,900	56	517,200		+6,300
Nontreponemal research	39	381,000	39	383,300		+2,300
Total	344	3,712,000	344	3,830,000		+118,000

	1964 estimate	1965 estimate	Increase(+)or decrease(−)
Epidemiologic and casefinding services	$2,820,100	$2,929,500	+$109,400

This activity provides for direct venereal disease program assistance to State and local health departments in the conduct of venereal disease control programs and for developmental activities in the areas of venereal disease education and behavioral research.

If the eradication of syphilis is to become a reality, practicing physicians must be able to make an accurate diagnosis of syphilis when patients come to medical attention. Current informational materials are being furnished, and health department diagnostic services are being offered through the physician visitation program to physicians presently in practice. Students presently in medical school, however, are being taught little, if any, syphilology and may never see a case of infectious syphilis in school, internship, or residency. As a result, they will be inadequately prepared to recognize the existence of early syphilis lesions in patients coming to their attention, they will have a low index of suspicion, and they will be unaware of the public health aspects of the disease. Active efforts must be made to reestablish syphilology as an important phase of medical education. This can be achieved through the establishment in teaching hospitals of venereal disease clinics where source material for teaching purposes would be readily available. During 1964, Public Health Service medical officers are being assigned to teaching hospitals in Houston and Philadelphia to assist in teaching programs. During 1965 this pilot effort in establishing special teaching clinics in these two hospitals will be continued.

Venereal disease information-education programs directed at the general public are being carried out primarily in metropolitan areas where more persons can be reached through the expenditure of a given amount of effort. Programs are currently operational in New York City, Chicago, Philadelphia, Los Angeles, and Houston, with further extension of this activity contemplated during 1964.

Surveys of the content of public and parochial school course curricula have shown that practically no venereal disease education is currently being provided in schools. A teacher-training manual and a programed course of instruction are being developed by the venereal disease program and will be made available in quantity to school systems and educators throughout the country in an effort to stimulate the inclusion of venereal disease material in formal course curricula.

Behavioral research on adolescent venereal disease risk taking is in its initial phase in New York City with definitive results being anticipated and program implementation developed in 1965. Studies of physician attitudes toward venereal disease reporting and studies of the reasons VD patients come to medical attention are being undertaken in order to determine why some physicians do not report VD cases to health authorities and to find out what kinds of information programs would stimulate VD patients to seek treatment.

At the request of State and local health departments, trained personnel are assigned to provide continuing impetus to the implementation of the task force recommendations. These personnel assist State and local health officials in the design and conduct of programs to provide: (1) complete epidemiologic exploitation of all reported cases; (2) visits to physicians and laboratories to obtain their cooperation in the eradication effort; (3) followup on all positive laboratory reports; (4) venereal disease surveillance and other control activities. Personnel so assigned are available for mobilization into epidemic teams to move quickly into areas experiencing actual or threatened syphilis epidemics.

The increase of $109,400 is for built-in items. There is no change in program level.

	1964 estimate	1965 estimate	Increase (+) or decrease (—)
Syphilis research and services	$510,900	$517,200	+$6,300

Although the eradication of syphilis can be achieved in the absence of an immunizing agent, tremendous efficiencies could be introduced into the eradication effort if a syphilis vaccine were available. Consequently, the possibility of artificially producing immunity to syphilis through the administration of a vaccine is continually being explored. Many basic research problems remain still to be solved, however, and research activities will be continued to further knowledge regarding physiologic activity and antigenic structure of *T. pallidum.* The study of the antigenic structure of virulent and avirulent treponemes by use of fluorescent antibody technique will be continued as will work on metabolic products of treponemes and their association with immunity. Additional knowledge in these areas is essential for the ultimate development of an immunizing agent for syphilis.

Proper syphilis diagnoses by both practicing and health department physicians are dependent upon the proper performance of test procedures by health department and private laboratories throughout the country. To meet these continuing needs, the Venereal Disease Research Laboratory provides consultation services, refresher courses and special training in venereal disease laboratory procedures. In 1965, as in 1963 and 1964, it is anticipated that 150 individuals will attend courses at the Laboratory and that 40 field workshops will train 600 persons. Reagents control and test standardization are continuing activities of the Laboratory.

The increase of $6,300 is for built-in items. There is no change in program level.

	1964 estimate	1965 estimate	Increase (+) or decrease (—)
Nontreponemal research services	$381,000	$383,300	+$2,300

In 1963, 270,000 cases of gonorrhea were reported, approximately the same as in 1962. Control activities directed at gonorrhea are not being emphasized, partially due to the necessity for an all-out effort to eradicate syphilis but more so due to the problems inherent in gonorrhea diagnosis in the female and to the inadequacy of present treatment schedules. Lack of progress in the control of gonorrhea was confirmed in 1963 to be partially due to asymptomatic females who are serving as a reservoir of gonorrhea infection. In order to ascertain effective treatment schedules for such individuals, a research project at the Federal Reformatory for Women in Alderson, W. Va., is being undertaken. Results of this study will provide the basis for therapy evaluation studies in clinic situations during 1965.

As a result of infection experiments conducted with human volunteers at the Federal penitentiary in Atlanta, a group of antigens common only to virulent

N. gonorrhoeae has been determined. This suggests the possibility that a precipitin test for *N. gonorrhoeae* can be developed leading to the eventuality of a serologic test capable of determining infection.

The differentiation of gonorrhea strains with respect to their sensitivity to penicillin is a continuing activity of the Venereal Disease Research Laboratory.

The increase of $2,300 is for built-in items. There is no change in program level.

DENTAL SERVICES AND RESOURCES

WITNESSES

DR. DONALD J. GALAGAN, CHIEF, DIVISION OF DENTAL PUBLIC HEALTH AND RESOURCES

DR. AARON W. CHRISTENSEN, DEPUTY CHIEF, BUREAU OF STATE SERVICES

JOHN W. HAMBLETON, FINANCIAL MANAGEMENT OFFICER FOR COMMUNITY HEALTH PROGRAMS

DR. LUTHER L. TERRY, SURGEON GENERAL

HARRY L. DORAN, CHIEF FINANCE OFFICER

JAMES F. KELLY, DEPARTMENT BUDGET OFFICER

Object classification

[In thousands of dollars]

		1963 actual	1964 estimate	1965 estimate
11	Personnel compensation:			
	Permanent positions	1,303	1,765	1,878
	Positions other than permanent	312	355	359
	Other personnel compensation	2	12	8
	Total personnel compensation	1,617	2,133	2,246
12	Personnel benefits	172	228	236
21	Travel and transportation of persons	162	185	193
22	Transportation of things	26	20	19
23	Rent, communications, and utilities	54	72	74
24	Printing and reproduction	44	36	36
25	Other services	215	158	176
	Research contracts	364	316	316
	Payment to—			
	Bureau of State Services management fund	68	146	154
	National Institutes of Health management fund	8	9	9
26	Supplies and materials	73	68	75
31	Equipment	190	71	75
41	Grants, subsidies, and contributions	2,646	2,825	3,064
	Total obligations	5,639	6,266	6,671

Personnel summary

	1963 actual	1964 estimate	1965 estimate
Total number of permanent positions	198	211	220
Full-time equivalent of other positions	68	77	78
Average number of all employees	234	282	291
Employees in permanent positions, end of year	182	206	213
Employees in other positions, end of year	130	112	113
Average GS grade	8.0	8.1	8.2
Average GS salary	$7,115	$7,742	$7,779

Program and financing

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
Program by activities:			
1. Grants:			
(*a*) Research	485	664	795
(*b*) Training	2, 161	2, 161	2, 269
2. Research, training, and technical services	2, 681	3, 441	3, 607
Total program costs, funded [1]	5, 328	6, 266	6, 671
Change in selected resources [2]	311		
Total obligations	5, 639	6, 266	6, 671
Financing:			
Comparative transfer from other accounts	−2, 664	−12	
Unobligated balance lapsing	24		
New obligational authority	2, 999	6, 254	6, 671
New obligational authority:			
Appropriation	3, 006	6, 218	6, 671
Transferred to "Operating expenses, Public Buildings Service," General Services Administration (76 Stat. 728 and 77 Stat. 436)	−7	−24	
Appropriation (adjusted)	2, 999	6, 194	6, 671
Proposed transfer from "National Heart Institute" due to Uniformed Services Pay Act of 1963		60	

[1] Includes capital outlay as follows: 1963, $139,000: 1964, $154,000: 1965, $77,000.

[2] Selected resources as of June 30 are as follows: Unpaid undelivered orders, 1962, $256,000 (1963 adjustment, $3,000): 1963, $571,000: 1964, $571,000: 1965, $571,000.

Mr. FOGARTY. Dr. Galagan, I think you are next. Do you have a statement?

Dr. GALAGAN. I do, Mr. Chairman.

Mr. FOGARTY. Please proceed.

GENERAL STATEMENT

Dr. GALAGAN. Mr. Chairman, the goal of the Division of Dental Public Health and Resources is to improve the dental health of the Nation and to help make dental services, both preventive and remedial, available to everyone who needs them. Working toward that goal, the Division concentrates on four major program areas.

DEVELOPMENT OF PROFESSIONAL RESOURCES

The first portion of the program is directed toward the development of professional resources. In addition to certain program responsibilities in connection with the dental school construction and expansion grants authorized by Public Law 88–129, the Division provides leadership in efforts to assure more efficient use of available personnel.

Activities include continuing studies of the projected needs for dentists and auxiliaries on a national, regional, and areawide basis, the training of dental students to utilize auxiliaries, studies of the optimum size of the dental team, and the distribution of duties between the dentist and auxiliaries, the educational facilities, and curriculum requirements of auxiliaries and training of dental students in special patient care.

REMOVAL OF BARRIERS TO THE RECEIPT OF CARE

Our second program area is aimed at the removal of barriers to the receipt of care. Primary interest is in facilitating the orderly development, the orderly growth of nonprofit prepaid dental plans, with new emphasis on the need for nationwide plans—of the Blue Shield type—made urgent by the recent national union negotiations which have just been concluded.

Another important aspect of this part of our program is directed toward the improvement of publicly supported dental plans, such as those offered to public assistance beneficiaries, or sponsored by health departments.

PREVENTION AND CONTROL OF DENTAL DISEASES

The third area is concerned with the prevention and control of dental diseases. Emphasis here is placed on community water fluoridation and related fluoride-containing measures, cytological testing as an aid in early diagnosis of oral cancer, and the provision of care to the mentally retarded and the handicapped.

The fourth program area is in the strengthening of applied research and training. At the Dental Health Center, we are conducting epidemiological research in cleft palate, and we are experimenting with various new teaching methods and giving major emphasis to the development of a series of continuing education courses for practicing dentists. By this means we hope to bring into use the newest scientific knowledge at the earliest possible date. At the Center we also offer residency training and short courses in dental public health. The Center will shortly house the Division's newest education and research and training activity—the development and evaluation of dental materials, instrumentation, and techniques with subsequent training programs for practicing dentists in the use of these new materials and techniques.

SUMMARY OF BUDGET

In summation, we request an appropriation of $6,671,000. This amount provides for increases of $131,000 in research grants; $108,000 in the special dental assistant utilization training program; and $166,000 and nine positions in direct operations.

Mr. Chairman, I shall be glad to answer any questions you may have about this program and about this budget request.

Mr. Fogarty. Thank you, Doctor.

You are requesting an increase of $453,000 and nine positions.

They are pretty thinly spread over several activities; are they not?

Dr. Galagan. Yes.

DENTAL HEALTH CENTER IN SAN FRANCISCO

Mr. Fogarty. You have two additional positions for the dental health center in San Francisco. What is that for?

Dr. GALAGAN. One in epidemiology and one in our training program.

Mr. FOGARTY. What did they ask for?

How any positions did they ask you for?

Mr. HAMBLETON. They asked for three more than they received.

Mr. FOGARTY. We visited the center a few weeks ago, Mr. Laird, Mr. Moyer and myself, and we were impressed with the work they are doing. They are also doing a good job on remodeling the building. It is going to be a first-class building.

Dr. GALAGAN. We are very pleased.

Mr. FOGARTY. They were able to get the General Services to do it. Is that correct?

Dr. GALAGAN. Yes.

Mr. FOGARTY. Other Public Health personnel working on the heart program and in nursing also use the building. Does this create any space problems, in your opinion?

Dr. GALAGAN. I believe there are 11 people with the nursing program and 7 in the heart program at the present time in the building. However, this really presents no problem to us right now. We have no space problem.

Dr. TERRY. However, Mr. Fogarty, the dental program could use some additional space in the basement there.

Mr. FOGARTY. That is right, the hospital employees have this meeting room down there.

Dr. CHRISTENSEN. Yes.

Mr. FOGARTY. It seems to me with a building as big as the hospital, that you could provide better space than you have in the basement of this building for these activities, and it would give the dental people a chance to use this space.

And also the security of the building is not the best with this space frequently being used at night and the whole building open. That was a point brought up when we were there.

Dr. TERRY. We are expecting to make that space in the basement available to the dental program. There is a lot of stored material in there, some of which needs to be thrown away and some placed elsewhere; that can be used, and we do have definite plans in that direction.

Mr. FOGARTY. That is good.

CLINICAL DEVELOPMENT CENTER AT LOUISVILLE

Now, there are three additional positions at the clinical development center at Louisville.

Dr. GALAGAN. The three positions at Louisville will be used to add to our experimental staff there which is experimenting with the functions of auxiliaries, trying to determine what additional functions may be carried out by them.

Mr. FOGARTY. Did they get what they asked for?

Dr. Galagan. Except for one position.

Mr. Fogarty. Now, there is increase for funding 34 research grant projects, 9 more than last year. The justification mentioned current research on "New approaches to the topical application of fluorides," "The use of dental auxiliaries," "Solutions to the decisionmaking process on community fluoridation."

TOPICAL APPLICATION OF FLUORIDES

What is new in the topical application of fluorides?

Dr. Galagan. New compounds have been developed which can be used as a paste that is applied much easier than the old liquid solutions. These new compounds are seemingly more effective, and their effectiveness may be of a longer duration.

Mr. Fogarty. Are the dentists in areas that are not fluoridated suggesting this topical application of fluorides?

I have never heard dentists talk about it.

Dr. Galagan. To a certain extent, although the technique is not as widely used as we would like to see it.

We are attempting and have been attempting to encourage practicing dentists to use these techniques routinely in their practice.

Mr. Fogarty. How about the American Dental Association: do they do anything about it, to educate their dentists?

Dr. Galagan. Yes, they work with us in the effort to get all dentists to use preventive procedures more fully, including topical fluorides.

SOLUTIONS TO DECISIONMAKING PROCESS ON COMMUNITY FLUORIDATION

Mr. Fogarty. All right. "Solutions to the decisionmaking process on community fluoridation." What does that mean?

Dr. Galagan. These would be researchers which we support in the process that goes on in the community when they are considering fluoridation, an evaluation of the people who are influential in helping citizens make their choice, and evaluation of the media which are most used in getting information to the public, and an evaluation of the effectiveness of various political and nonpolitical approaches.

Mr. Fogarty. Is not the ADA doing about the same thing?

Dr. Galagan. No, they have not supported investigations of this kind.

Mr. Fogarty. Local dental associations——

Dr. Galagan. Oh, yes. Yes, they help provide technical assistance to the community.

PROGRESS IN FLUORIDATION

Mr. Fogarty. I was glad to see that real progress was made in 1963 in the fluoridation of water supplies. We will place your table on the progress that has been made in the record.

(The table referred to follows:)

Status of fluoridation at end of each year 1945–63

Year	Fluoridation status at end of each year		Net fluoridation instituted each year	
	Number communities	Population served	Number communities	Population served
		Thousands		*Thousands*
1945	6	232	6	232
1946	12	332	6	101
1947	16	459	4	126
1948	26	582	10	123
1949	49	1,063	23	481
1950	100	1,579	51	516
1951	368	5,079	268	3,501
1952	751	13,875	383	8,796
1953	1,007	17,666	256	3,791
1954	1,194	22,337	187	4,671
1955	1,347	26,279	153	3,942
1956	1,583	33,905	236	7,627
1957	1,717	36,215	134	2,310
1958	1,890	38,462	173	2,246
1959	1,990	39,628	100	1,167
1960	2,111	41,180	121	1,551
1961	2,197	42,201	86	1,021
1962	2,321	44,045	124	1,277
1963 [1]	2,553	46,666	236	2,024

[1] Preliminary data.

TRAINING GRANTS

Mr. FOGARTY. You are requesting an increase of $108,000 for training grants. The justifications say "If the most optimistic prospects for dental school expansion are fully realized, the resulting increase in graduation rates will permit nothing more than the perpetuation of the present dentist population ratio."

Is that still true? You say that on page 197.

Dr. GALAGAN. Yes; even with the expected new dental places that will result from the construction authorized by Public Law 129, at best we cannot do any more than partially keep up with the population increase. So that we have got to make up the difference by making the dentist more productive.

RESEARCH GRANT FUNDS

Mr. FOGARTY. How is the research grant program progressing?

Dr. GALAGAN. We have been very pleased with this new program. This is the first year we have had a research grant program, as you know, and we have committed all of the funds that were made available and we have several projects which have been approved which we will not be able to fund in this fiscal year.

Mr. FOGARTY. Would you put a list of those in the record?

Dr. GALAGAN. Yes.

Mr. FOGARTY. That have been approved and you did not have money with which to fund them.

(The document follows:)

Applications approved by study sections for which funds are not available out of fiscal year 1964 appropriations

Title	*Amount*
Research on program dental instruction	$40, 078
Roll and interaction changes involving dental auxiliaries	18, 000
Effect of fluoridation upon dental practice	25, 000
Epidemiology of oral health in a fluoridated area	26, 946
Topical fluorides in community programs (supplement)	28, 048
Total	138, 072

Mr. FOGARTY. Now, if your appropriation for fiscal year 1965 is allowed, how much will you have available for support of new research grant projects?

Dr. GALAGAN. 255,000.

Mr. FOGARTY. How many new projects?

Mr. HAMBLETON. It will leave us at the same level of new research grant projects, 12 each year, 1964 and 1965. They gave us all the money for continuations we requested.

Mr. FOGARTY. That is nowhere near enough to meet the demand according to the 1964 experience?

Dr. GALAGAN. We will not be able to finance all approved applications.

CONTINUING EDUCATION FOR PRACTICING DENTISTS

Mr. FOGARTY. Can you tell us a little bit more about the program of continuing education for practicing dentists at the Dental Health Center which you mentioned in your budget request?

Dr. GALAGAN. We have for some time been concerned about the lack of continuing learning on the part of dentists, as the Public Health Service is generally concerned with the lack of continuing education for physicians and other health practitioners. As I am sure you observed when you were at the Center, we are putting most of our emphasis in the Training Branch on the developing of a major program of lifelong education or continuing education for dentists.

At the present time we have concentrated our efforts on producing about 10 or 12 courses which are now almost completed and which will be tried in the State of Oregon this summer.

We will be putting on a demonstration of these continuing education courses at the American Dental Association meeting in San Francisco next fall.

Mr. FOGARTY. What is the date of that meeting? It is the first week in November, something like that?

Dr. GALAGAN. Yes.

We are preparing ourselves for a major effort in developing continuing education for the practicing dentist. Very few dentists take refresher courses. In 1962 for instance about 10 percent of the practicing dentists took any kind of refresher course.

Mr. FOGARTY. Is that true of the doctors too?

Dr. TERRY. I do not know what the percentage is of the physicians; do you?

Dr. CHRISTENSEN. No, I do not, but I think it might be a little higher.

Dr. TERRY. I would think it would be higher, but I do not have any figures, sir.

DENTAL TECHNOLOGY PROGRAM

Mr. FOGARTY. What is this dental technology program you are starting at the Dental Health Center; what is involved here?

Dr. GALAGAN. This program results from our developing concern about the void which has existed in activities in the dental profession and in Government relating to the assessment and development of new techniques and instrumentation in the field of dentistry.

We have come to the conclusion that the Public Health Service needed to emphasize the work in this field. We are collaborating with the National Institute of Dental Research in a newly emphasized program of research and development in this field which will, we believe, provide better techniques, better equipment, better materials, for practitioners, and improve their services to patients, and thereby protect and improve the health of the public.

RESEARCH ON CLEFT LIP AND PALATE

Mr. FOGARTY. When we were in San Francisco, we talked with Dr. Greene and it seemed to me that we are not doing half enough in the research area on cleft palate. This is a terrible thing if it is not taken care of, is it not? And treatment is long and costly, but it is correctable in most cases.

Dr. GALAGAN. Yet, at great expense, time, and pain and suffering.

Mr. FOGARTY. We have been talking about this problem for 10 or 12 years now but we do not seem to get much progress. Why do we not get a special program or real large expansion of the present program on this?

What do you think could be done in this area if you had the money? What do you think ought to be done? We have been doing too much talking and haven't had enough action as far as I am concerned.

Dr. GALAGAN. We need to find out the cause, obviously.

INTEREST OF RHODE ISLAND STATE HEALTH OFFICER

Mr. FOGARTY. Dr. Galagan, I recently received a letter from our State health officer, Dr. Cannon, and I see he has been in touch with your people in connection with the cleft palate program. He is especially interested in finding out whether there is a relationship between the incidence of cleft palate and water fluoridation since our reported cases of cleft palate are considerably below the estimated national average and we are at the top in the Nation with regard to fluoridation of water supplies. Would you like to comment on this?

Dr. GALAGAN. I am familiar with the correspondence between the Rhode Island State Department of Health and the epidemiology branch about the lowered incidence of cleft palate in your State. It is impossible at this time to draw conclusions from an association between the change in the number of reported cases of cleft palate and fluoridation in Rhode Island. Unfortunately, the numbers are still too small to be meaningful.

However, the idea has some intriguing possibilities. As we build up a larger number of cases we plan to look into the relationship more fully. We really do not have the staff at the present time to move into the field phases of this investigation to any great extent. This aspect of the long-term study would require a great deal of detailed information, such as specific times of exposure to fluoridated and nonfluoridated water, which can only be obtained from personal interviews.

This possible lead is a good example of the many that are developing from the birth record study at the center.

Mr. FOGARTY. We will place the correspondence in the record.

(The correspondence referred to follows:)

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS,
DEPARTMENT OF HEALTH,
Providence, February 14, 1964.

Hon. JOHN E. FOGARTY,
House Office Building, Washington, D.C.

DEAR CONGRESSMAN FOGARTY: This week I received a letter from John Greene, chief, epidemiological branch, Dental Health Center, San Francisco, Calif. He mentioned that he recently had had an opportunity to describe the dental health center's congenital malformation research program to you. He mentioned your interest in the center's National Cleft Lip and Palate Intelligence Service and the reported variations in incidence of these malformations.

For many years you have had a keen interest in all phases of health, including dental health. You have also demonstrated special interest in all phases of health of the handicapped children and children with malformations. We deeply appreciate this interest.

When we first became aware early last year that the reported cases of cleft palate and cleft lip in Rhode Island for years 1959–61 were about 50 percent under the estimated national average, we wrote to the U.S. Public Health Service. A copy of our March 15, 1963, letter is enclosed as is a copy of their March 20, 1963, referral letter.

I am deeply grateful that you and John Greene had an opportunity to meet and discuss the dental health center's research program. A copy of my letter to John Greene is enclosed for your information. I do hope that during their investigation they will be able to determine whether or not there is any relationship to fluoridated water and the dropping off of cleft lip and cleft palate cases where drinking water is fluoridated. If so, this would be one big additional health benefit for people who consume fluoridated water at the optimum level.

Warmest personal regards.

Sincerely yours,

BRUCE D. FORSYTH, D.D.S., M.P.H.,
Chief, Division of Dental Public Health.

MARCH 15, 1963.

DONALD J. GALAGAN, D.D.S.,
Assistant Surgeon General, Chief, Division of Dental Public Health and Resources, Department of Health, Education, and Welfare, Public Health Service, Washington, D.C.

DEAR DR. GALAGAN: After I became chief of the new Division of Dental Public Health here in Rhode Island, I had occasion to look over the most recent data regarding cleft palates and cleft lip reporting on birth certificates in this State. This is for 1961 and I note that the number was 15, and about 50 percent under the estimated national average.

The Division of Vital Statistics was requested to look into this matter and to give me some further information concerning prior years of cases reported and the rate per 1,000 live births.

Last month, a letter was received by the health department from your Division requesting permission to check the State health departments' records regarding this same matter. If this is going to be a nationwide investigation, then

I would suggest that you also look into or try to differentiate where these cases are found in relation to fluoridated versus nonfluoridated areas.

The only information that we have available in this office is from 1957 through 1961. Please see attached sheets.

Two questions come to mind:

1. Is this a true reduction in cases of cleft palate and/or cleft lip from 1957 until 1959 at which time a leveling off took place, or is this due to poor reporting?

Neither the Chief Statistician nor I have been able to locate any sound basis for determining the national average at 1 case per 750 to 800 live births.

2. Is it true that this is only an educated guess? Is there really a dropping off of cases in this area, and is there any correlation between such cases and water fluoridation?

Any further information that you have concerning such reporting we would appreciate receiving.

Sincerely yours,

BRUCE D. FORSYTH, D.D.S., M.P.H.,
Chief, Division of Dental Public Health.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,
PUBLIC HEALTH SERVICE,
Washington, D.C., March 20, 1963.

BRUCE D. FORSYTH, D.D.S.,
Chief, Division of Dental Public Health, Department of Health, State Office Building, Providence, R.I.

DEAR DR. FORSYTH: In the absence of Dr. Galagan, I am replying to your letter of March 15 in which you inquire about recent data on cleft lip and palate prevalence.

The Epidemiology Branch at the Dental Health Center is establishing a National Cleft Lip and Palate Intelligence Service. Dr. John Greene, Chief of the Branch, is better qualified to reply to the questions in your letter, and I have taken the liberty of forwarding it to him.

Congratulations on your recent appointment. Your many friends in the Division are looking forward to working with you once again.

Sincerely yours,

VIRON L. DIEFENBACH, D.D.S.,
Acting Chief, Division of Dental Public Health and Resources.

FEBRUARY 13, 1964.

JOHN C. GREENE, D.M.D., M.P.H.,
Chief, Epidemiology Branch,
Dental Health Center,
San Francisco, Calif.

DEAR DR. GREENE: Thank you for your letter of February 10, 1964, and the information contained therein.

I was glad to hear that you had had an opportunity to describe the Dental Health Center's congenital malformation research program to Congressman Fogarty. He has had an interest in all phases of dental health for many years and has had a special interest in handicapped children and children with malformations.

From the general tone of your letter, I wonder whether or not you received the letter that I wrote to Dr. Galagan on March 15, 1963. A copy of it is enclosed. A copy also is enclosed of a letter I received from Dr. Diefenbach dated March 20, 1963, indicating that they were referring my letter to you.

As I mentioned in the letter of March 15, 1963, I had occasion to look over data regarding cleft palates and cleft lips for this State for 1961. Since this was considerably under the national average, I requested additional data for previous years. Enclosed is a copy of the cleft palate and cleft lip data secured from punchcards from births occuring in Rhode Island 1957–62[1] and 1963.[1]

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[1] These were not available last year when a copy was sent with the Mar. 15, 1963, letter. The 1963 data are provisional.

Early last year a letter was received by the health department from the Division of Dental Public Health and Resources requesting permission to check the health department's records regarding cleft palates and cleft lips. Please note that I suggested that if this was going to be a nationwide investigation, we would like to see cleft palate and cleft lip rates of other highly fluoridated areas compared with Rhode Island. We would also like to see comparison rates between fluoridated and nonfluoridated areas. In Rhode Island 87 percent of the population that is on public water supply systems receive fluoridated water; 77 percent of the entire population of Rhode Island receives fluoridated water at the optimum level of one part per million. Please note that we asked two questions in our March 15, 1963, letter to the Division and ultimately referred to you. One, is this a true reduction in cases of cleft palate and/or cleft lip from 1957 until 1959 at which time a leveling off took place, or is this due to poor reporting? Neither the chief statistician nor I have been able to locate any sound basis for determining the national average at 1 case per 750 to 800 live births. And, second, is it true that this is only an educated guess? Is there really a dropping off of such cases in this area, and is there any correlation between such cases and water fluoridation?

Although your letter of February 10, 1964, did not answer the questions I raised last year, it does seek information and I shall attempt to give you what we have. If you need further information or we can help answer any problems or questions that might come to mind, we shall be only too happy to render any assistance to you that we can.

Although our case numbers are small, they have remained fairly constant since 1958 as is evident from the data. Data are not available prior to 1957. No studies have been made of completeness and accuracy. We believe, however, that our birth reports are completed more fully and accurately than in many States. We would like to see some comparison made on data on hospital reports compared with birth reports.

In reply to your question concerning reasons why reporting should be low in Rhode Island as compared to other States, two suggested leads might be worth while exploring:

1. The population of Rhode Island is about 98 percent white; hence, our rate might be compared with the white rates in other States to see if there is a difference in race where cleft palate and cleft lip is concerned.
2. Although I am repeating what I previously mentioned, we would like to see cleft palate and cleft lip rates of other highly fluoridated areas compared with Rhode Island.

As you no doubt know, because of its compactness this State is largely urbanized and last year 99½ percent of the babies born in Rhode Island were born in hospitals.

Sincerely yours,

BRUCE D. FORSYTH, D.D.S., M.P.H.,
Chief, Division of Dental Public Health.

Information regarding cleft palate and cleft lip secured from punchcards from births occurring in Rhode Island

Year	Number reported	Rate per 1,000 live births
1957	27	1.4
1958	19	1.0
1959	14	.7
1960	14	.7
1961	15	.8
1962 [1]	13	.7
1963 [1]	15	.8

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[1] These were not available last year when a copy was sent with the Mar. 15, 1963 letter. The 1963 data are provisional.

Mr. FOGARTY. They are collecting statistics out at the San Francisco center now; are they not?

Dr. GALAGAN. Yes; for the first time we are looking at the thing from a national point of view.

Mr. FOGARTY. From birth records?

Dr. GALAGAN. That is correct. Trying to get information about where these cases occur and under what conditions.

You will recall that last year I mentioned in testimony that in our pilot study in four States, we uncovered an unusual relationship between the incidence of the cleft to the age of the father, racial differences, and differences on the side in which cleft lip occurred. Since then we have moved into evaluation, nationwide, of cleft lips and cleft palates and some very interesting things are already developing. I do not know how deeply Dr. Greene went into it with you, but for instance, he is finding——

Mr. FOGARTY. We had lunch with them and then went back and spent the rest of the afternoon with them. We were with Dr. Nevitt, Dr. Greene, Dr. Weiss, and Dr. Podshadley.

Dr. GALAGAN. In any event the results of the data we have been able to analyze so far indicate quite a high rate in the Midwest and an extremely low rate in the Southern States. We are not sure, of course, why this is so. Undoubtedly it is due to differences in reporting effectiveness and probably results somewhat from the influence of race. But there seems to be a very definite clustering of a larger number of cases, the relative number of cases, in the Midwest which we hope to follow up.

ACTIVITIES NEEDED TO ACCELERATE CLEFT PALATE PROGRAM

Mr. FOGARTY. We are not moving fast enough. What do you think we ought to do to get a little more action on this program?

What about the collaborative program that is being carried on by the Institute of Neurology?

Dr. GALAGAN. We need to intensify our research.

Mr. FOGARTY. Can you collaborate with them and get statistics from them that would help your study?

Dr. GALAGAN. At this point they are getting data from us, from our epidemiological studies in San Francisco. They have been very much interested in what we are doing.

Mr. FOGARTY. They will have about 45,000 mothers and their babies under observation in 15 areas throughout the country, so that is a pretty good sampling right there; is it not?

Dr. GALAGAN. We are mutually exchanging information between the study that is going on at NIH and our program in San Francisco.

Mr. FOGARTY. Are you?

Dr. GALAGAN. The new Child Health and Development Institute also will put considerable emphasis on research in this field. We need to find the key to it because of this very unusual——

Mr. FOGARTY. All right, what can we do to try to find that key a little quicker than you think it is going to take at the present rate?

Are you satisfied at the rate we are going now?

Dr. GALAGAN. In our particular field, I think we need a more intensive analysis of birth records. We think this will yield us additional data.

Mr. FOGARTY. Do you have any plan?

Dr. GALAGAN. At present we are gathering information from all of the States that report the anomaly on the face of the birth record.

We intend to follow up on this to determine whether it is reliable or not, but we are somewhat hampered right now in processing data at the Center, as you probably observed. We really do not have the staff to analyze the data that we are collecting in this nationwide study.

Mr. FOGARTY. Well, what do you need to get current then? Do you need some more people?

Dr. GALAGAN. We would need to augment our National Intelligence Service on cleft lip and palate considerably.

Mr. FOGARTY. I wish you would develop for the record what you think ought to be done to speed up this program. I think it is a shame to be talking about this for 10 or 12 years and we really do not have a real good program in effect yet.

Dr. GALAGAN. I will be glad to do that.

(Requested statement follows:)

PROPOSAL FOR EXPANDED EPIDEMIOLOGICAL STUDIES OF CLEFT LIP AND PALATE

Fragments of information which have been contributed over the years by many workers in an effort to understand the etiology of cleft lip and cleft palate, when pieced together, lead to the conclusion that etiology probably will be explained on the basis of genetic transmission from affected or unaffected parent to child, or on the basis of one or more factors in the environment which catalyze the development of a cleft.

At the present time, the National Cleft Lip and Palate Intelligence Service conducted at the Dental Health Center focuses its activites on the identification of leads for field studies which may help to explain cleft etiology; it has not yet been developed into a broad-based program of investigation.

A major program of epidemiological studies in cleft lip and palate clearly is needed if we are to find the cause of this tragic condition. Opportunities for important achievements never have been greater. Projects which will draw on the skills of subject matter specialists in dentistry, medicine, anthropology, nutrition, and genetics should be established to probe the significance and parental age, race season of birth, heredity, nutrition, stress, infectious disease, and other factors in cleft etiology.

Though investigative opportunities are limitless, it is proposed that maximum effectiveness would be achieved by developing a major epidemiological study of cleft lip and palate during approximately a 5-year period. Such a stepwise development would make it possible to accelerate and improve current birth record studies with particular emphasis on increasing analytical scope and depth, and to conduct or support field studies.

Among the significant field activities which would be undertaken the first year are:

1. A study of social and clinical characteristics of cleft cases, their siblings, parents, and other close relatives with particular emphasis on incomplete expressions of congenital clefts, other types of malformations among family members, blood types, and chromosome abnormalities.

2. A study of clefts and other malformations, such as polydactyly and spina bifida, among Negroes, Japanese, American Indians, and selected Caucasian population isolates with emphasis on differences in rates of malformation occurrence, and determination of the relative roles of genetics and environmental influences.

3. A study comparing geographic areas reporting high incidence and those reporting low incidence of clefts with emphasis on determining the portion of the difference which can be attributed to faulty intelligence and that which can be described on the basis of differences in physical, social, and biological phenomenon.

In the following years, the program would be expanded to probe more fully the genetic component of cleft lip and palate; factors in the external environment of the parents which—as a result of a one-time event or as a continuous element of the environment—are related to facial cleft occurrence; and factors in the microenvironment of the fetus which may affect its development.

Findings from these studies will be coordinated with, and will supplement, the perinatal studies conducted by the National Institute of Neurological Diseases and Blindness, and with related studies conducted and supported by the National Institute of Dental Research and the National Institute of Child Health and Human Development.

To carry out these proposed activities during the first year, the sum of $438,000 and a staff of 28 would be required.

Mr. FOGARTY. Are there any other real deficiences in this overall dental program that you can think of right now, that we ought to be paying attention to?

Dr. GALAGAN. Of course, a major advance has been made with the passage of Public Law 129 which will help greatly in the manpower situation.

We are concerned there is not the development in the use of dental auxiliaries.

We are concerned that fluoridation is not going as rapidly as it might.

Mr. FOGARTY. Off the record.

(Discussion off the record.)

Mr. FOGARTY. Mr. Denton?

Mr. DENTON. I have no questions.

Mr. FOGARTY. Is there anything else you want to say, Doctor?

Dr. GALAGAN. No, sir.

Mr. FOGARTY. Thank you very much.

JUSTIFICATION MATERIAL

(The justification material submitted to the committee follows:)

DENTAL SERVICES AND RESOURCES

Amounts available for obligation

	1964	1965
Appropriation	$6,218,000	$6,671,000
Transferred to "Operating expenses, Public Buildings Service," General Services Administration	−24,000	
Comparative transfer from "Salaries and expenses, Office of the Surgeon General"	12,000	
Proposed transfer from "National Heart Institute"	60,000	
Total	6,266,000	6,671,000

Description	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Grants:						
Research		$664,000		$795,000		+$131,000
Training		2,161,000		2,269,000		+108,000
Research, training, and technical services	211	3,441,000	220	3,607,000	+9	+166,000
General consultation and program support	68	870,900	68	886,300		+15,400
Disease prevention and control	33	616,200	33	622,400		+6,200
Development of dental health programs	19	253,000	19	260,400		+7,400
Manpower supply and utilization	28	747,500	31	770,800	+3	+23,300
Individual and community health practices	16	187,000	16	190,200		+3,200
Dental health center	45	714,400	47	771,900	+2	+57,500
Research and development in dental technology	2	52,000	6	105,000	+4	+53,000
Total obligations	211	6,266,000	220	6,671,000	+9	+405,000

Obligations by objects

	1964 estimate	1965 estimate	Increase (+) or decrease (—)
Total number of permanent positions	211	220	+9
Full-time equivalent of all other positions	77	78	+1
Average number of all employees	282	291	+9
Number of employees at end of year:			
Permanent positions	206	213	+7
Other	112	113	+1
11 Personnel compensation:			
Permanent positions	$1,765,100	$1,878,300	+$113,200
Positions other than permanent	355,400	359,400	+4,000
Other personnel compensation	12,000	8,000	—4,000
Total personnel compensation	2,132,500	2,245,700	+113,200
12 Personnel benefits	227,900	235,800	+7,900
21 Travel and transportation of persons	185,000	192,500	+7,500
22 Transportation of things	20,000	18,900	—1,100
23 Rent, communications and utilities	72,000	73,500	+1,500
24 Printing and reproduction	36,200	36,400	+200
25 Other services	157,800	176,000	+18,200
Research contracts	315,700	315,700	
Payment to:			
“Bureau of State Services management fund”	145,600	153,600	+8,000
“National Institutes of Health management fu	9,000	9,000	
26 Supplies and materials	68,300	75,300	+7,000
31 Equipment	71,000	74,600	+3,600
41 Grants, subsidies, and contributions	2,825,000	3,064,000	+239,000
Total obligations by object	6,266,000	6,671,000	+405,000

Summary of changes

1964 enacted appropriation	$6,218,000
Transferred to “Operatiing expenses, Public Buildings Service,” General Services Administration	—24,000
Comparative transfer from “Salaries and expenses, Office of the Surgeon General”	12,000
Proposed transfer from “National Heart Institute”	60,000
Total estimated obligations, 1964	6,266,000
1965 estimated obligations	6,671,000
Total change	+405,000
Increases:	
A. “Built-in”:	
1. Annualization of step two of civil service pay increase	31,200
2. Annualization of 11 positions new in 1964	24,900
3. Annualization of uniformed services pay increase	20,000
4. Pro rata share of annualization of new positions in 1964 BSS management fund	3,600
Subtotal, “built-in” increases	79,700
B. Program increases:	
1. Increases in research grants	131,000
2. Increases in training grants	108,000
3. Expansion of manpower supply and utilization activity (3 positions)	15,200
4. Expansion of programs at dental health center (2 positions)	30,000
5. Expansion of research and development in dental technology (4 positions)	50,000
6. Payment to “Bureau of State Services management fund”	2,000
Subtotal, program increases	336,200
Gross increases	415,900

Summary of changes—Continued

Decreases:	
1. One less day's pay in 1965 (262 days in 1964; 261 days in 1965)	=$4,000
2. Nonrecurring program costs related to new staff in 1964	−6,900
Subtotal, decreases	−10,900
Total net change requested	405,000

EXPLANATION OF CHANGES

Research grants

An increase of $131,000 is requested to provide funds for estimated continuations, increased indirect costs, and a level of new grants equal to that provided in 1964.

Training grants

An increase of $108,000 is requested to provide for a continuing program of undergraduate and specialized dental public health student training in the use of dental assistants, extending the training time for students in dental schools.

Manpower supply and utilization

An increase of $15,200 and three positions is requested to expand the current program at the Clinical Development Center in Louisville, Ky., to permit comparative studies with larger dental teams.

Dental health center

An increase of $30,000 and two positions is requested to augment the ongoing epidemiological and training programs.

Research and development in dental technology

An increase of $50,000 and four positions is requested to test and develop dental materials in the Dental Health Center clinical setting for the ultimate application as a dental health treatment technique.

Explanation of transfers

	1964 estimate	1965 estimate	Purpose
Transfer to: "Operating expenses, Public Buildings Service," General Services Administration.	−24,000	0	Transfer of rental costs for leased space.
Transfer from: "National Heart Institute."	+60,000	0	Proposed transfer due to Uniformed Services Pay Act of 1963.
Comparative transfer from: "Salaries and expenses, Office of the Surgeon General."	+12,000	0	Decentralization of accounting point costs.

Dental services and resources

	Budget estimate to Congress	House allowance	Senate allowance	Appropriation
1962	$2,182,000	$2,182,000	$2,500,000	$2,500,000
1963	2,506,000	2,506,000	3,006,000	3,006,000
1964	6,227,000	6,218,000	6,218,000	6,218,000
1965	6,671,000			

Research grants

	1964 estimate	1965 estimate	Increase
Grants, subsidies, and contributions	$664,000	$795,000	+$131,000

Estimated grant requirements

	1964 estimate		1965 estimate		Increase	
	Number	Amount	Number	Amount	Number	Amount
1. Continuations:						
(*a*) Noncompeting	10	$281,000	19	$396,000	+9	+$115,000
(*b*) Competing	3	100,000	3	100,000		
2. New grants	12	255,000	12	255,000		
Subtotal	25	636,000	34	751,000	+9	+115,000
3. Increase in indirect costs:						
(*a*) To 20 percent [1]		28,000		33,000		+5,000
(*b*) To 25 percent [2]				11,000		+11,000
Total indirect costs		28,000		44,000		+16,000
4. Total	25	664,000	34	795,000	+9	+131,000

[1] Relates to all grants approved for support in 1964 and 1965.

[2] Relates to proposed increase in indirect cost rate to 25 percent for grants awarded on or after Jan. 1, 1965.

The research grants activities of the program are relatively new, the base having been transferred from the National Institutes of Health in 1964. In the short interval since the transfer, we have been successful in stimulating applied research, particularly that devoted to the improvement of individual and community dental health services. Research support has, and will, become an increasingly important component of our overall effort to reduce the disturbing lag between the acquisition of knowledge and its meaningful application.

Current research.—Current research supported by grants emphasizes improvement of planning, organization, administration, and evaluation of preventive, curative, and restorative dental services for all segments of the population. For example, exploration is being made of new approaches to the topical application of fluorides; studies are being conducted which are designed to explore broader and more effective use of dental auxiliaries, and investigations of new methods of programed learning are being supported. Two active grants are directed to the important area of the economics of dentistry—prepayment and family expenditures for dental care. Another is in the area of behavioral science and seeks solutions to the decisionmaking process on community fluoridation. Many of these projects have direct bearing on intramural programs and hold the promise of solving many problems in the complex field which seeks application of new knowledge to community practice.

An increase of $131,000 is requested for continuation of present grants and for keeping the level of support available for new grants at the 1964 level.

Training grants

	1964 estimate	1965 estimate	Increase
Grants, subsidies, and contributions	$2,161,000	$2,269,000	+$108,000

If the most optimistic prospects for dental school expansion are fully realized, the resulting increase in graduation rates will permit nothing more than the perpetuation of current dentist/population ratios. Because individual dental service demands will increase even as the population grows, it is obvious that this Nation must find other ways of assuring a greater availability of professional dental services. One proven method of achieving this is through the fuller and more efficient utilization of auxiliary personnel, such as the chairside assistant. Learning to use auxiliary personnel will make the dental student a more productive practitioner when he graduates, but it is evident also that the use of an assistant facilitates the process of dental education by the conservation of student time. We therefore place strong emphasis on training grants to participating dental schools in support of programs offering instruction in the utilization of chairside assistants.

It has been found that the longer the dental student is exposed to this team training the more effective the instruction. The requested increase of $108,000 will therefore be used to extend the training time for about 500 students in approximately 6 of the 45 dental schools now participating in the program.

Research, training, and technical services

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	211	$2,360,400	220	$2,481,500	+9	+$121,100
Other expenses		1,080,600		1,125,500		+44,900
Total	211	3,441,000	220	3,607,000	+9	+166,000

Summary of program

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
General consultation and program support	68	$870,900	68	$886,300		+$15,400
Disease prevention and control	33	616,200	33	622,400		+6,200
Development of dental health programs	19	253,000	19	260,400		+7,400
Manpower supply and utilization	28	747,500	31	770,800	+3	+23,300
Individual and community health practices	16	187,000	16	190,200		+3,200
Dental health center	45	714,400	47	771,900	+2	+57,500
Research and development in dental technology	2	52,000	6	105,000	+4	+53,000
Total	211	3,441,000	220	3,607,000	+9	+166,000

	1964 estimate	1965 estimate	Increase
General consultation and program support	$870,900	$886,300	+$15,400

The Division of Dental Public Health and Resources provides the leadership, consultation, and technical assistance necessary to the achievement of more adequate standards of dental health.

Its programs are carried out by six operating branches; the dental health center in San Francisco; a research grants unit; and four staff offices for supporting services. The Division now has professional representation in all nine regional offices. The 1964 appropriation supports 211 permanent positions, including 21 in the regional offices, plus the full-time equivalent of 77 positions which are filled by temporary appointees under cooperative projects or by student assistants during peak workloads.

Sixty-eight positions in this activity are for supportive services to programs and include 8 positions in the immediate office of the Chief, 22 positions providing reference, statistical and common administrative services, 4 positions in the research grants unit, and 9 positions are allotted to the Division's planning and information activities. This activity also supports four trainees in the Division's career development program.

The increase of $15,400 provides for built-in changes.

	1964 estimate	1965 estimate	Increase
Disease prevention and control	$616,200	$622,400	+$6,200

Proven methods for preventing and controlling oral diseases include the fluoridation of water, topical fluoride applications, and the observance of sound personal health practices, such as periodic dental examinations and care and personal oral hygiene. Newer diagnostic aids, such as cytological tests for oral cancer, offer further promise for disease control. To be fully effective, however, a control program must reach all people. This goal can only be accomplished through a strong and continuing program of public education, demonstration, and technical assistance.

Fluoridation.—Though fluoridation of community water supplies is the best and most economical method for preventing dental decay, only 46 million people in 2,519 of the 20,000 U.S. communities had access to fluoridated water as of December 31, 1963. During 1963, only 24 of 49 community referendums on fluoridation were successful.

To stimulate greater support for fluoridation activities, the Division in 1964 completed staffing of a fluoridation unit which prepares educational materials, provides information services, cooperates in community studies, and meets the States' requests for professional consultation.

A 3-year study of the effectiveness of fluoride dentifrices in a community program in Washington State will be completed in 1964. Continuing is a test of a fluoride prohylaxis paste in a North Carolina school program. Following these studies, the combined effectiveness of topical fluoride applications and fluoridated water in preventing dental decay will be tested.

Oral cytology.—This screening procedure, in which dentists scrape tissue from lesions for pathological examination, promises to reduce the death rate from oral cancer by permitting earlier detection and referral for treatment. Having determined the value of training private dentists to use the cytological technique, the major expansion of our demonstration and training program was achieved in 1964 with the initiation of eight new projects: two in Illinois and one each in Georgia, Alabama, Kentucky, New York, Louisiana, and Tennessee.

Dental care for handicapped, chronically ill, and aged persons.—The Division is determining treatment needs in particular handicapped or chronically ill groups, developing techniques for the provision of services, and establishing alternative approaches to the organization and administration of community service programs. Three pilot studies of the treatment of handicapped children, to be completed in Idaho, Illinois, and New Jersey in 1964, will form the basis for developing prototype community service programs. A study in the District of Columbia focuses upon mentally retarded children. A project in Missouri is providing preliminary information on the operation of a hospital-based community dental care program for special patients of all ages.

The additional increase of $6,200 provides for built-in changes including the pro rata share of the Bureau of State Services management fund.

Development of dental health programs

1964 estimate	$253,000
1965 estimate	260,000
Increase	+7,400

Growing interest in organized dental programs, public and private, underscores the need for specific information on their structure, staffing, and content, particularly with respect to publicly sponsored programs at the community level.

Community program development.—The Division has undertaken two nationwide surveys, one of local communitywide dental programs, the other of programs conducted in institutions, such as nursing homes and hospitals. Reports on the two surveys are being prepared for publication in fiscal years 1964 and 1965. These reports, together with previous publications of the characteristics of State dental programs, salary scales, and the digests of prepaid dental care plans, will constitute the most comprehensive inventory yet attempted of the Nation's dental programs.

In cooperation with the U.S. Employment Service, we established the Dental Public Health Personnel Service in 1963. The Division makes no placements, serving rather as an employment information center. The personnel service has been enthusiastically received by employees and applicants alike, with listings more than doubling during the second 6 months of operation.

Two workshops for program directors are planned for 1965. They will concentrate on techniques for improving the organization, administration, and financing of public dental programs.

Prepaid dental care plans.—Prepaid dental care plans ease the financial burden of dental care by spreading the cost. Therefore, the Division also concerns itself with the orderly development of these plans, sponsoring workshops and conferences and conducting studies and research projects devoted to the collection, classification, and analysis of data on the operation and utilization of prepayment plans. In 1965, the Division will sponsor regional forums for the exchange of information on the development and management of these programs.

Informational materials and teaching aids have been published and further studies of group dental care needs, utilization patterns, and costs will provide the additional data needed by program planners and administrators.

Two new positions allotted in 1964 will permit the staffing of a research unit in the Dental Health Center in San Francisco which will provide information relevant to group dental care needs, particularly adult dental service requirements, utilization patterns, and costs.

The increase of $7,400 provides for built-in changes.

Manpower supply and utilization

1964 estimate	$747, 500
1965 estimate	770, 800
Increase	+23, 300

The Nation's dental health standards continue to be threatened by the growing shortage of dentists. The threat can be removed only by an expansion of the dental manpower force accompanied by increases in the effectiveness of the individual dentist.

Utilization of dental auxiliaries.—Through the Division's training grant program, students in 45 dental schools are taught to work effectively with chairside assistants. Consequently, the demand for well-trained dental assistants increases with each graduation.

Trained assistants are themselves in short supply and in the few schools offering formal instruction, courses vary both in length and content. We are therefore sponsoring prototype studies in six schools of various types to determine the makeup of optimum programs of instruction. This year a handbook for the establishment of programs for the training of assistants is being prepared in cooperation with the Office of Education. We are continuing to work with a number of community colleges and schools that are establishing new dental assistant training programs either independently or with grants authorized by the recent manpower and training acts.

Funds appropriated in 1963 were used to establish the experimental Clinical Development Center in Louisville, Ky. The Center is investigating the fuller utilization of auxiliary personnel and defining the levels of productivity possible for a dentist working with a team of auxiliaries. The results of this study, the only one of its kind in this country, can have far-reaching effects on dental productivity and the need for dental auxiliary manpower and training facilities.

During 1965, an increase of $15,200 and three positions (dental assistants) are requested to expand the clinic staff to permit comparative studies with larger dental teams.

Dental care for special patients.—Requests by local communities for assistance in establishing dental care programs for chronically ill and aged citizens are steadily increasing. In 1965, the 12 schools conducting Division-sponsored programs under cooperative agreements will seek to improve their methods of instruction in the care for the mentally ill and crippled children, as well as for the aged and bedridden. Modified techniques of instruction will be tested. An encouraging number of graduates from these schools now provide care for special patient groups as a part of their practice routine.

Dental school facilities planning.—The intensified interest in the construction of new dental schools and the renovation of existing schools has resulted in a marked increase in requests for assistance in dental school facilities planning. The Division's Facilities Construction Unit provides consultation to universities on the design, space relationships, and general planning of dental school buildings. Studies are continuing on those special features of modern dental school design which will be useful in future facilities planning.

A guide for determining the need for dental training facilities is being prepared and collection of data for use in a companion guide on the problems of financing a dental school will be completed. Data on the means by which dental students finance their educations are under analysis and will be ready for publication by the year's end.

Increases in available scientific knowledge make it necessary to teach more during each class period. Studies on the adaptation of new teaching methods to dental education are being continued. During 1964, it is expected that prototype dental courses incorporating automated self-instruction and electronic computer-programer devices will be developed. A publication discussing possible adaptations of these various concepts is being prepared.

An increase of $8,100 provides for built-in changes including the pro rata share of the Bureau of State Services management fund in addition to the program increase of $15,200 and three positions outlined above.

	1964 estimate	1965 estimate	Increase
Individual and community health practices	$187,000	$190,200	+$3,200

The Division's program of social studies represents the first comprehensive effort by an official agency to employ the knowledge of the behavioral scientist in designing more effective dental health programs. Closely coordinated with our other programs, these studies focus upon both individual and community health actions and attitudes and upon the forces which influence them.

Several studies are underway in the socioenvironmental field, designed to assess factors having direct bearing on the dental care process. Included are studies on motivation toward dental care by individual family groups; a study of the interaction and communication between the dentist and his patient, especially in relation to physical discomfort and anxiety and the motivation for preventive dental care in dental prepayment and fee-for-service plans.

The increase of $3,200 provides for built-in changes.

	1964 estimate	1965 estimate	Increase
Dental health center	$714,400	$771,900	+$57,500

The Dental Health Center continues to expand its basic programs of training and applied research in dental public health.

Epidemiology.—Primary emphasis is given to obtaining information on the incidence and distribution of cleft lip and palate and possible leads to its cause. The first major study of records of live births, in the States of California, Hawaii, Pennsylvania, and Wisconsin for the period 1956–60, will be published in 1964. It provides a comprehensive analysis of parental and individual characteristics of 4,450 babies born with cleft lip and palate.

A larger, more definitive study covering 30 States, known as the National Cleft Lip and Palate Intelligence Service, is producing comprehensive nationwide information on the incidence of oral clefts. Studies to date show a positive relationship between race and parental age and occurrence of clefts, a preponderance of clefts of the lip on the left side, regular occurrence of a second congenital anomaly in children with clefts. Plans are under way to followup on these and other leads.

Periodontal disease is one of the major unsolved dental public health problems. This condition is being studied, first, to describe the disease process and, second, to determine whether specific causes can be identified. In 1965, emphasis will be placed on assessing incidence and prevalence. To further substantiate current theory, the Center has contracted with the University of Kentucky for a yearlong study of the cause and effect relationship between calculus and periodontal disease. A project now under way in India will help identify the characteristics of persons forming calculus on and around teeth.

Training.—Essential to a program having responsibility for the application of public health knowledge is its training function. The Division offers continuing education for dental public health workers, a residency program, and short courses for dental public health workers. Training projects over the next 5 years are being developed for use by public health schools, dental societies, and health agencies.

Continuing education: There is a widening gap between what is known in dental science and technology and what knowledge is actually applied in dental practice. Less than 1 percent of private practitioners enroll in graduate and postgraduate courses and only 10 percent take refresher courses. There is not a lack of interest on the part of the practitioner. The problems that need to be resolved are inaccessibility, inconvenience, and expense.

So that practicing dentists can be reached and trained in their own environment, we are placing special emphasis on developing new approaches to their continuing education. In addition to employing automated teaching devices and group instruction, the Division is also investigating other training media such as telephone and television instructional conferences, correspondence courses, and area instructional center programs.

Short courses: The Center conducts short courses, seminars, fact-finding conferences, and workshops on a regular schedule for professional and lay persons. Course subjects include use of dental indexes, research design, dental administration, and social dentistry. In collaboration with clinical and laboratory activities, two new courses will be offered on dental laboratory procedure and patient research examination.

In last year's budget, five positions in the Dental Health Center were provided by respective headquarters units and carried as part of this activity. A decrease in the 1965 base has been made as an adjustment to put the positions in their proper activity in the budget. No change was made either in physical location or functions as a result of the adjustments in positions and funds.

An increase of $30,000 and two positions is requested in 1965 to augment the Center's epidemiological and training programs.

An additional increase of $27,500 provides for built-in changes including the pro rata share of the Bureau of State Services management fund.

	1964 estimate	1965 estimate	Increase
Research and development in dental technology	$52,000	$105,000	+$53,000

The levels of applied research and development in dental materials, therapeautic agents, equipment, and techniques currently fall far below that which could be considered adequate. The need, first, to determine the effectiveness and clinical safety of dental materials and, second, to assure the use of the best and safest materials and equipment is real and apparent.

The renovation and equipping of additional space has made it possible for the Division to initiate a program of clinical investigation into dental materials, instrumentation, and procedures. A key scientist is being actively recruited to direct the program.

A patient population for these studies will be developed, and priorities established. Limited laboratory examination of materials will begin in 1965, in advance of full-scale clinical investigations now being planned. A primary aim will be to tie the technological developments from this new program into the continuing education program so that new knowledge will have immediate application in practice.

Increases requested for this activity in 1965 are $50,000 and four positions, (two scientists, a records analyst, and one clerical employee).

An additional $3,000 provides for built-in costs related to the pro rata share of the Bureau of State Services management fund.

New positions requested, fiscal year 1965

Research, training, and technical services	Grade	Annual salary
Scientist (geneticist)	GS-16	$16,016
Scientist	GS-14	13,624
Do	GS-13	11,731
Public health program specialist	GS-12	9,984
Do	GS-7	5,803
(3) Dental staff technician	GS-5	14,103
Clerical assistant	GS-5	4,701
Total, new positions (9)		75,962

NURSING SERVICES AND RESOURCES

WITNESSES

MISS JESSIE M. SCOTT, CHIEF, DIVISION OF NURSING

DR. AARON W. CHRISTENSEN, DEPUTY CHIEF, BUREAU OF STATE SERVICES

MISS EDITH RATHBUN, SPECIAL ASSISTANT TO THE CHIEF, DIVISION OF NURSING

JOHN W. HAMBLETON, FINANCIAL MANAGEMENT OFFICER FOR COMMUNITY HEALTH PROGRAMS

DR. LUTHER L. TERRY, SURGEON GENERAL

HARRY L. DORAN, CHIEF FINANCE OFFICER

JAMES F. KELLY, DEPARTMENT BUDGET OFFICER

Object classification

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
11 Personnel compensation:			
Permanent positions	630	846	877
Positions other than permanent	7	10	10
Other personnel compensation	3	4	2
Total personnel compensation	640	860	889
12 Personnel benefits	103	146	149
21 Travel and transportation of persons	82	101	95
22 Transportation of things	8	7	7
23 Rent, communications, and utilities	21	18	18
24 Printing and reproduction	21	17	15
25 Other services	176	95	86
Payment to—			
Bureau of State Services management fund	23	49	52
National Institutes of Health management fund	23	27	27
26 Supplies and materials	13	9	9
31 Equipment	21	13	12
41 Grants, subsidies, and contributions	9,715	9,921	2,703
Total obligations	10,846	11,263	4,062

Personnel summary

	1963 actual	1964 estimate	1965 estimate
Total number of permanent positions	125	134	134
Full-time equivalent of other positions	1	1	1
Average number of all employees	98	122	123
Employees in permanent positions, end of year	100	120	120
Employees in other positions, end of year	1	13	13
Average GS grade	6.8	6.8	6.8
Average GS salary	$6,123	$6,494	$6,494

Program and financing

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
Program by activities:			
1. Grants:			
(*a*) Research	1,814	1,999	1,977
(*b*) Fellowships	276	313	362
(*c*) Training	7,625	7,609	364
2. Research, training, and technical services	1,027	1,342	1,359
Total program costs, funded [1]	10,742	11,263	4,062
Change in selected resources [2]	104		
Total obligations	10,846	11,263	4,062
Financing:			
Comparative transfers from other accounts	−2,432	−6	
Unobligated balance lapsing	23		
New obligational authority	8,437	11,257	4,062
New obligational authority:			
Appropriation	8,438	11,217	4,062
Transferred to—			
"Salaries and expenses, Office of the Surgeon General" (42 U.S.C. 226)		−1	
"Operating expenses, Public Buildings Service," General Services Administration (76 Stat. 728)	−1		
Appropriation (adjusted)	8,437	11,216	4,062
Proposed transfer from "National Heart Institute" due to Uniformed Services Pay Act of 1963		41	

[1] Includes capital outlay as follows: 1963, $17,000; 1964, $8,000; 1965, $9,000.

[2] Selected resources as of June 30 are as follows: Unpaid undelivered orders, 1962, $87,000 (1963 adjustments −$1,000); 1963, $191,000; 1964, $191,000; 1965, $191,000.

Mr. FOGARTY. Miss Scott, I believe you are next. You have never been before this committee, have you?

Miss SCOTT. No, Mr. Chairman.

BACKGROUND OF THE CHIEF, DIVISION OF NURSING

Mr. FOGARTY. We generally ask for those who are appearing for the first time to set forth a summary of their background for the record.

Miss SCOTT. If you are interested in my State of origin, I am a Pennsylvanian. I have been in nursing almost 30 years.

Prior to coming to the Public Health Service in 1955, I spent a good bit of my professional life in the field of nursing education, teaching in schools of nursing, and in nursing service.

After joining the Division of Nursing Resources, which was one of the divisions that came together to form this Division, I gave consultation to States in the use of nursing resources. I have been Deputy Chief of the Division of Nursing since 1960.

Mr. FOGARTY. All right. Go ahead, Miss Scott, please.

GENERAL STATEMENT

Miss SCOTT. Mr. Chairman, and members of the committee, I am pleased to have this opportunity to present the budget for the "Nursing services and resources" appropriation.

The problem which continues to dominate all consideration of nursing is the shortage of nurses. This, condition, which began during the war and has been growing more acute ever since, has been aggravated by the developments of modern science which have greatly changed the job of the nurse.

There are in reality two problems involved—first, the need for a greatly increased number of nurses, and second, a need for those nurses to have a much higher level of education to enable them to cope with the complexities of medical treatment today.

The Division of Nursing has attempted to formulate its program as a simultaneous attack on these two principal problems of the profession.

STUDIES OF THE NEEDS OF NURSING

During the past year, two distinguished groups of experts studied the needs of nursing and made recommendations for its future.

The first of these groups, the Surgeon General's Consultant Group on Nursing, issued its report under the title "Toward Quality in Nursing: Needs and Goals."

The second group was the Evaluation Conference for the Professional Nurse Traineeship Program. Their recommendations, published as a document called "Nurses for Leadership," have been submitted to the Congress, as required by law.

Legislative proposals based upon the studies of these two advisory groups of citizens have been prepared for the consideration of the Congress. Those suggestions which required only reemphasis of the Division's activities have been adopted and are included in the work which is being reported to this committee today.

The program of the Division of Nursing is a coordinated effort at the national level directed first, toward development of manpower resources; second, improvement in the use of the existing supply of nurses, and in the quality of service they provide; third, improvement in the education of nursing personnel; and forth, advancement of nursing through research.

SUMMARY OF THE BUDGET

The 1965 budget request is for $4,062,000. These funds include an increase of $49,000 for research fellowships to cover larger stipends to keep pace with higher living costs, and $80,000 for research training grants which will be used for expansion and for larger stipends.

There is no change in staffing level for 1965. Mr. Chairman, I shall be glad to answer any questions you may have about this program and the budget request.

Mr. Fogarty. Thank you. The appropriation for 1964 is $11,217,000 and request for 1965 is $4,062,000, a reduction of $7,155,000, due primarily to the expiration of legislation authorizing the professional traineeship grant program.

LEGISLATION TO EXTEND PROGRAM

What is the status of legislation to extend this program?

Miss Scott. Legislation in connection with the professional nurse traineeship program is included in the legislative proposals submitted to the Congress based on the Surgeon General's Consultant Group on Nursing report and the evaluation conferences.

Mr. Fogarty. As a result of these two reports, you have sent suggested legislation to the Congress?

Miss Scott. Yes.

Mr. Fogarty. Will that legislation take care of all the needs?

Miss Scott. The legislative proposal outlined will present a coordinated, considered effort toward the improvement of nursing practices and the education of nurses in this country.

Mr. Fogarty. That is going to take care of the nursing shortage?

Miss Scott. It will go a long way.

Mr. Fogarty. How far?

Miss Scott. That is a difficult question to answer, I think.

Mr. Fogarty. How much is it going to cost?

Miss Scott. The cost of the legislative proposals for the first year is around $19 million. I think the total cost of the 5 years in the proposals is somewhere around $350 million.

RESEARCH GRANTS

Mr. Fogarty. In total, you are just about holding level on research grants, supporting 62 this year and 62 next year, but the number of new projects which you will be able to support next year is only 6, or half the number in 1964.

Is that right?

Miss Scott. Yes.

Mr. Fogarty. Is interest dropping off in this area?

Miss Scott. No; we have a number of proposals coming before the study sections and the national advisory councils for research support. There is considerable interest in research.

Mr. Fogarty. What do you anticipate will be the number of approved projects you could fund if you had sufficient appropriations in 1965?

You only have enough money to support six, right?

What do you think could be funded if you had the money?

Miss Scott. We have not been able to fund all of the approved grants for 1964.

Mr. Fogarty. How many approved grants in 1964 can you not fund?

Miss Scott. About seven, I believe.

Mr. Fogarty. Seven?

So your 1965 budget will not finance the carryover from 1964, will it?

Miss Scott. No, sir.

Mr. Fogarty. That is not very good. What did you ask for?

Mr. Hambleton. $2,207,000. Our estimate is $230,000 less than that.

Mr. Fogarty. And how many projects would that $230,000 finance?

Mr. Hambleton. Six.

Mr. Fogarty. It would take care of six additional projects? Who cut the $230,000?

Dr. Christensen. The Bureau of the Budget.

Mr. Fogarty. Are you sure the President knew what was in the budget for nursing when he sent it up here with all these cuts?

Mr. Kelly. I am sure his staff did.

Mr. Fogarty. The President made some reference to this problem in his message, did he not?

Miss Scott. Yes, he did.

Mr. Fogarty. He made the point that there is a severe problem.

Miss Scott. Yes, he did.

Mr. Fogarty. I don't remember the exact words; but then he cut your budget $230,000.

FELLOWSHIPS

It looks like you are getting an increase for fellowships, but this is just to cover the increased cost?

Miss Scott. The increase will take care of the increase in stipends.

Mr. Fogarty. There is no increase in this program?

Miss Scott. No.

SAN FRANCISCO PROGRAM

Mr. Fogarty. Now, we stopped in and took a look at your program in San Francisco, and talked briefly with Elinor Stanford who heads that office.

How do you think they are making out?

Miss Scott. They are moving forward, Mr. Chairman, in their study of the admission of patients to nursing units and also in the effort they are directing toward the teaching program—the teaching of patients.

Mr. Fogarty. They gave me the impression they could use some more personnel out there, two or three more positions. Is that right? Did they ask for more?

Mr. Hambleton. I think it was 11 positions.

Miss Scott. They have eight now.

Mr. Fogarty. I see. They need three more?

Miss Scott. Yes.

Mr. Fogarty. Yes. Will you prepare for the record why these three positions are needed?

Miss Scott. Yes, sir.

Mr. Fogarty. And the cost?

Miss Scott. Yes, sir.

(The information requested follows:)

Positions needed at the Nursing Research Field Center

Type	Grade	Annual cost
Nurse researcher	Senior	$10,531
Statistician	GS-12	10,665
Secretary	GS-6	5,602
Total cost		26,798

Mr. Fogarty. There is no expansion provided for in the budget, is there?

Miss Scott. The present budget, the 1965 budget; no, sir.

Mr. Fogarty. Are they happy in the building out there?

Miss Scott. Very much so. We find being adjacent to the Dental Research Field Center, with their interest in programed learning, certainly adds to our capabilities in this area. It is a nice association.

Mr. Fogarty. That is good.

Mr. Denton?

CURRENT AND PROPOSED STAFF

Mr. **Denton**. How many employees do you have now?

Mr. **Hambleton**. 134 permanent positions. All of them will not be filled at the end of the year.

Mr. **Denton**. Now, your increase for personnel is $31,500. What is that for? Because of the pay increase?

Mr. **Hambleton**. That is for the annualization of seven new positions authorized in 1964, plus the pay increase.

Mr. **Denton**. Where did you say your offices were now?

Miss **Scott**. Our offices are in Silver Spring, in the Willste Building.

Mr. **Denton**. How many do you have out there?

Miss **Scott**. A staff of 70.

Mr. **Denton**. Seventy. How many do you have in the field?

Miss **Scott**. Nine regional consultants. In regional offices, we have a total of 19 people. We have eight people in the Field Center, and we have six nurses assigned out for career development.

Mr. **Denton**. When did you move out to Silver Spring?

Miss **Scott**. Last July.

Mr. **Denton**. You were here in the old temporary building before?

Miss **Scott**. Yes; we were in temporary R.

Mr. **Denton**. Are there any other Public Health facilities out at Silver Spring?

Miss **Scott**. Yes. The Willste Building is all Public Health Service.

Dr. **Terry**. It is a new building. We are the first occupants of the building.

Mr. **Kelly**. The Division of Indian Health, the Nursing Division, and the Division of Hospital Facilities are all out there.

Mr. **Denton**. They just built a new building for the HEW, have they not?

Mr. **Kelly**. We use half of the building alongside us for the Office of Education and half is used by the National Aeronautics and Space Administration. We also have the new Food and Drug building.

Dr. **Terry**. We did not get any space in either one of those buildings, sir.

Mr. **Denton**. That is all.

Mr. **Fogarty**. Is there anything else you would like to say, Miss Scott?

Miss **Scott**. I don't think so. Thank you.

Mr. **Fogarty**. Say whatever you want to now. We do not want the nurses from the national organization to come up later on and say you did not look out for them. They will have several suggestions, I assume, where you could use more money. Are there any areas that you think are real critical, and you ought to be spending more money?

Miss **Scott**. May I submit it for the record?

Mr. **Fogarty**. Yes; sure.

Miss **Scott**. Thank you very much, Mr. Chairman.

(The following was subsequently submitted:)

NURSING SERVICES AND RESOURCES—CRITICAL AREAS FOR WHICH FUNDS ARE NEEDED

The two most critical problems in nursing—for the Nation and the profession—are the short supply of professional nurses and the complexity of present-day nursing care. The Division of Nursing continues to attack these problems as part of its overall program. Progress could be accelerated in these two critical areas if two activities in the Division's program could be intensified through additional support.

The first of these activities is improvement in the use of existing supply of nurses. Although the number of professional nurses needs to be increased, this cannot be done right away; it takes time to train new nurses. Making the best use of the resources at hand is the most immediate and most direct means of improving nursing services to patients both in and out of hospitals. The Division has developed methods to assist hospitals and health agencies to look at their nursing procedures and to provide information on which to base corrective action so as to increase nursing services through better use of the available manpower resources. Hospitals and health agencies must be assisted with the application of these methods to improve the use of the present supply of nurses if the spiraling effect of misuse is to be stopped. A team could be assigned to work closely with agencies in selected areas for this purpose.

The second of these activities is the advancement of nursing through research. The complex problems of nursing care require solutions—many of which can be obtained only through research. The problems needing study are now more clearly defined. They are mainly concerned with patient care—specifically, the impact of nursing care on the patient. A better understanding of this will have far-reaching implications for nursing practice which will relate back to the preparation of nurses. For this reason it is especially important to support research in this area.

The nursing research program has been carefully developed and has shown slow but steady growth. It has now achieved a degree of momentum in terms of reported results as well as project applications which should be maintained. However, in fiscal year 1964, for the first time, there was a drop in the number of new projects supported as funds were committeed to the continuation of ongoing projects. A substantial and consistent increase is needed if this program is to be sustained and increased to provide research competence in this field and ultimately the new knowledge for solutions to many of today's and tomorrow's nursing problems.

JUSTIFICATION MATERIAL

(Following is the justification material submitted to the committee:)

NURSING SERVICES AND RESOURCES

Amounts available for obligation

	1964	1965
Appropriation	$11,217,000	$4,062,000
Transferred to "Salaries and expenses, Office of the Surgeon General"	−1,000	
Comparative transfer from "Salaries and expenses, Office of the Surgeon General"	6,000	
Proposed transfer from "National Heart Institute"	41,000	
Total	11,263,000	4,062,000

Obligations by activities

Description	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Grants:						
Research	--------	$1,999,000	--------	$1,977,000	--------	−$22,000
Fellowships	--------	313,000	--------	362,000	--------	+49,000
Training	--------	7,609,000	--------	364,000	--------	−7,245,000
Research, training, and technical services	134	1,342,000	134	1,359,000	--------	+17,000
Improvement of nursing practices	52	442,000	52	467,000	--------	+25,000
Manpower resources	48	457,000	48	465,000	--------	+8,000
Administration of grants	16	233,000	16	213,000	--------	−20,000
Regional nurse consultants	18	210,000	18	214,000	--------	+4,000
Total obligations	134	11,263,000	134	4,062,000	--------	−7,201,000

Obligations by objects

		1964 estimate	1965 estimate	Increase (+) or decrease (−)
	Total number of permanent positions	134	134	--------------
	Full-time equivalent of all other positions	1	1	--------------
	Average number of all employees	122	123	+1
	Number of employees at end of year:			
	Permanent positions	120	120	--------------
	Other	13	13	--------------
11	Personnel compensation:			
	Permanent positions	$845,900	$877,400	$31,500
	Positions other than permanent	10,000	10,000	--------------
	Other personnel compensation	3,600	1,800	−1,800
	Total personnel compensation	859,500	889,200	+29,700
12	Personnel benefits	146,300	149,000	+2,700
21	Travel and transportation of persons	101,000	95,000	−6,000
22	Transportation of things	7,000	7,000	--------------
23	Rent, communications, and utilities	18,000	18,000	--------------
24	Printing and reproduction	17,000	15,000	−2,000
25	Other services	95,000	85,600	−9,400
	Payment to—			
	Bureau of State Services management fund	49,200	52,200	+3,000
	National Institutes of Health management fund	27,000	27,000	--------------
26	Supplies and materials	9,000	9,000	--------------
31	Equipment	13,000	12,000	−1,000
41	Grants, subsidies, and contributions	9,921,000	2,703,000	−7,218,000
	Total obligations by object	11,263,000	4,062,000	−7,201,000

Summary of changes

1964 enacted appropriation	$11,217,000
Transferred to "Salaries and expenses, Office of the Surgeon General"	—1,000
Comparative transfer from other accounts	6,000
Proposed transfer from "National Heart Institute"	41,000
Total estimated obligations, 1964	11,263,000
1965 estimated obligations	4,062,000
Total change	—7,201,000
Increases:	
A. "Built-in":	
1. Annualization of step 2 of civil service pay increase	11,500
2. Annualization of 7 positions new in 1964	9,700
3. Annualization of uniformed services pay increase	15,000
4. Pro rata share of annualization of positions new in 1964 for the management fund	800
Subtotal, "built-in" increases	37,000
B. Program increases:	
1. Increase in fellowships	49,000
2. Increase in research training grants	80,000
3. Improvement of nursing practices	7,800
Subtotal, program increases	136,800
Gross increases	173,800
Decreases:	
1. One less day's pay in 1965 (262 days in 1964; 261 days in 1965)	—1,800
2. Nonrecurring costs of evaluation conference	—23,000
3. Nonrecurring equipment	—3,000
4. Decrease in professional traineeship grants, sec. 307 of the Public Health Service Act, as amended, expires June 30, 1964	—7,325,000
5. Decrease in research grants	—22,000
Subtotal decreases	—7,374,800
Total net change requested	—7,201,000

EXPLANATION OF CHANGES

Fellowships

The increase of $49,000 for fellowship grants will permit larger stipends to be awarded to keep pace with higher living costs.

Research training grants

The increase of $80,000 for research training grants will be used for expansion and for increased stipend costs.

Improvement of nursing practices

An increase of $7,800 requested for 1965 will enable the Division to provide more consultation to hospitals and health agencies.

Evaluation conferences

A decrease of $23,000 results from the nonrecurring evaluation conference for the professional nurse traineeship program.

Professional traineeship grants

A decrease of $7,325,000 is due to section 307 of the Public Health Service Act as amended, which expires June 30, 1964, but legislation to extend this program is being proposed.

Research grants

The allowance of $1,977,000 for research grants for 1965, a decrease of $22,000 below 1964, will support the same number of grants in 1965 as in 1964.

Explanation of transfers

	1964 estimate	1965 estimate	Purpose
Transfer to "Salaries and expenses, Office of the Surgeon General."	−$1,000	0	Centralization of grants policy activities.
Transfer from "National Heart Institute"	+41,000	0	Proposed transfer due to Uniformed Services Pay Act of 1963.
Comparative transfer from "Salaries and expenses, Office of the Surgeon General."	+6,000	0	Decentralization of accounting point costs.

Nursing services and resources

	Budget estimate to Congress	House allowance	Senate allowance	Appropriation
1962	$7,375,000	$7,675,000	$7,675,000	$7,675,000
1963	8,438,000	8,438,000	8,438,000	8,438,000
1964	11,245,000	11,217,000	11,217,000	11,217,000
1965	4,062,000			

Research grants

1964 estimate	$1,999,000
1965 estimate	1,977,000
Increase or decrease	22,000

Estimated grant requirements

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Number	Amount	Number	Amount	Number	Amount
1. Continuations:						
A. Noncompeting	36	$1,140,000	45	$1,404,000	+9	+$264,000
B. Competing	14	362,000	11	270,000	−3	−92,000
2. Supplementals	(1)	2,000	(1)	2,000		
3. New grants	12	411,000	6	205,000	−6	−206,000
Subtotal	62	1,915,000	62	1,881,000	0	−34,000
4. Increase in indirect costs:						
A. To 20 percent [1]		84,000		72,000		−12,000
B. To 25 percent [2]				24,000		+24,000
Total indirect costs		84,000		96,000		+12,000
5. Total	62	1,999,000	62	1,977,000	0	−22,000

[1] Relates to all grants approved for support in 1964 and 1965.

[2] Relates to proposed increase in indirect cost rate to 25 percent for grants awarded on or after Jan. 1, 1965.

Grants for nursing research projects have as their purpose the development of an ever sounder base for the nursing care of all patients. Nurses, social scientists, and physicians have been identifying the crucial questions still unanswered in nursing in the studies they have carried out in the last decade or two. In the early nursing studies supported by the Public Health Service and others, there has been a preoccupation with studies of nursing and other professional personnel—with their respective roles and also their working relationships with each other in caring for patients. More and more of the newer nursing studies are directly concerned with patient care. These are expected to provide much needed new knowledge about many questions; for example, the specific effects of nursing practice in patient care.

Support by the Public Health Service for nursing research has resulted in some significant results although it only has been in effect for a few years.

In one research project, entitled "Measurements of Patient Welfare," the investigators are working on an instrument to measure selected aspects of patient behavior; for example, the patient's degree of stress and tension. This would enable the nurse to select the procedures which would eliminate stress and tension which have a deleterious effect on the physiological makeup of the patient.

Recognizing the growing use and importance of systems research in hospitals and health programs, the Division supports projects in this area. In one such study, entitled "Organization of a Nursing Unit," one ward is being used for experimentation to determine the ideal organization of staff, equipment, and procedures for a hospital nursing unit.

Many other crucial problems related to nursing have barely been explored. The many scientific and technological advances characteristic of our times are resulting in the shifting of functions from one occupational group to another within nursing services. Without adequate studies it is often difficult to determine what the appropriate functions of each group are. Very little is known of the potential and the effects for patients and nurses of many techniques of automation; patient monitoring devices; treatment consoles; teaching of nursing by television; teaching machines; and situational films.

In 1965, $1,977,000 is requested for costs of grants which will be utilized in the areas of research in nursing care of patients, administration of nursing services, and nursing education.

Fellowships

1964 estimate	$313, 000
1965 estimate	362, 000
Increase	+49, 000

The nurse research fellowship program is increasing the number of nurses who are both scientifically trained and motivated to better undertake sound research in nursing. Since 1955, approximately 150 individual nurses have received 1 or more years of fellowship support.

Yet the present supply of competent nurse investigators trained in the biological, physical, and social sciences of importance to nursing is inadequate. Only about 350 nurses in the Nation are known to have research preparation.

The fellowship program now provides the only available national support of nurse fellows for research training at the predoctoral and postdoctoral levels since support from private foundations is no longer available. It is therefore anticipated that the number of applicants for fellowships will increase.

Nurse research fellowships are awarded to professional nurses who have at least a baccalaureate degree and who demonstrate an interest in and a potential for research. The training they undertake can be in nursing or any of the health-related sciences.

A total of $362,000 is requested for 1965, an increase of $49,000 over the 1964 level. The increase will provide larger stipends due to the increased cost of living. There will be 57 predoctoral fellows and 3 postdoctoral fellowships in 1965.

Training

1964 estimate	$284, 000
1965 estimate	364, 000
Increase	+80, 000

Basic science departments in the universities need to expand in order to take on additional nursing students. Selected nurses need to have a full and thorough knowledge of the basic sciences in order to organize that part which applies to nursing and also to proceed to the necessary next step—to use it in studies to improve patient care.

There is a great need for nurses with this training in the increasing amount of interdisciplinary research in the Nation, yet few nurses now have this training.

Basic science departments in universities need to be encouraged and assisted to take on an additional academic load. Nurse scientist graduate training grants are intended to accomplish this. Grants are made to qualified public and other nonprofit educational institutions to establish, expand, and improve training opportunities in the health-related sciences for nurses interested in a career in research.

In 1964, 5 grants were awarded for the support of 13 science departments, and the funds requested in 1965 will make it possible to continue the support of these departments.

These science departments are located at the following universities:

Boston University.
University of California, Los Angeles.
University of California, San Francisco.
University of Washington.
Western Reserve University.

A total of $364,000 is requested for 1965, an increase of $80,000 over the funds available in 1964. This increase will be used for expansion of these science departments and for increased stipend costs.

Nurse traineeships

1964 estimate	$7,325,000
1965 estimate	0
Increase	−7,325,000

Existing legislation for this program, section 307 of the Public Health Service Act, as amended, expires June 30, 1964. In 1965 this is the subject of a legislative proposal. This program which had its beginning in 1957 was established to provide traineeships for professional nurses to qualify them for positions in administration, teaching, or supervision.

Of the $7,325,000 available for 1964, $6,325,000 will support approximately 2,000 nurses in long-term training and $1 million for 5,000 nurses in short-term courses or a total of 7,000 trainees.

Research, training, and technical services

Description	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	134	$1,005,800	134	$1,038,200		+$32,400
Other expenses		336,200		320,800		−15,400
Total	134	1,342,000	134	1,359,000		+17,000

Summary of program

Description	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Improvement of nursing practices	52	$442,000	52	$467,000		+$25,000
Manpower resources	48	457,000	48	465,000	0	+8,000
Administration of grants	16	233,000	16	213,000	0	−20,000
Regional nurse consultants	18	210,000	18	214,000	0	+4,000
Total	134	1,342,000	134	1,359,000		+17,000

Improvement of nursing practices

1964 estimate	$442,000
1965 estimate	467,000
Increase	+25,000

Meeting the needs of the people for nursing care cannot await a much increased supply of nurses or fundamental solutions to large and complex problems. Many long-range improvements in patient care can be made through far better application of the knowledge we already have. That better management and utilization of limited nursing personnel has many immediate results continues to be borne out through accumulating experience. Among the improvements which are known to occur are improvements in quality; improved continuity of care between hospital and home which, in turn, brings about reductions in hospital readmissions; reduced costs of care; and better morale among patients and personnel.

Experience with nursing research field center at San Francisco has borne out the value of closer proximity and better access to clinical material. In this connection, studies of importance which are underway or planned include: (1) model nurse staffing patterns and methods for more effective utilization of personnel; (2) more effective communications in patient care and teaching patients to care for themselves after discharge; and (3) more effective assessments of patient and personnel needs and the effectiveness of services.

Vastly increased use is being made of outpatient services and emergency services. Emergency services, in particular, are changing in response to community demands at night and on weekends when some other services are not available. Gaps exist in our knowledge regarding the needs for nursing care, including appropirate referrals, in these settings which are important connectors in continuity of care. It is imperative to obtain more information about the needs of patients who use clinic and emergency services and the nurse's duties in these settings. We propose to develop criteria for the evaluation of nursing care for ambulatory patients, to provide guidelines for the organization and administration of nursing services in outpatient departments, and to develop a guide of value for hospitals in helping to insure continuity of care through referral of patients to other community resources.

Public health practices and procedures must be constantly evaluated in order to insure maximum utilization of available personnel as the needs and demands mount for community health services. The method of assessing patient progress is being made as widely available as possible through teaching workshops for public health nursing supervisors and administrators, and the method is simultaneously being refined and strengthened.

We plan to stimulate use of this method and to begin the planning for conducting some controlled studies to determine the effectiveness of public health nursing services; for example, school health nursing services, which absorb a very large portion of all public health nursing resources.

The shortage of professional nurses in practice intensifies the need for better management and utilization of limited nursing personnel. New ways of achieving this are needed, as is greater application of the methods already available. Our plan is to continue carrying out the following existing studies: (1) Methodology of nurse activities in inpatient and outpatient units; (2) the procedure for determining expenditures for direct service work units for public health nursing services; and (3) the method to analyze public health nursing utilization in order to determine the amount of personnel needed for a specified program of work.

The increase of $7,800 requested for 1965 will enable the Division to provide more consultation along with the guides or manuals and other devices chosen to communicate the program methods for coping with nursing needs and utilization in hospitals and health agencies. An increase of $17,200 is requested for built-in changes in the pro rata share of the Bureau of State Services management fund.

Manpower reseources

1964 estimate	$457,000
1965 estimate	465,000
Increase	+8,000

That the overall supply of nurses should be greater is well known and accepted. In order to evaluate the supply of nurses in relation to need and to maximize the utilization of nurses, this program as well as other programs must have data on the characteristics of manpower both nationally and locally. Such data are urgently needed for (*a*) program planning and evaluation within and outside of the Public Health Service; (*b*) civil defense purposes; and (*c*) establishment of a continuing, up-to-date register of specialized nursing personnel that would be analogous to existing directories of scientific manpower and professional specialists. It is, therefore, proposed to continue our activities designed to insure the systematic collection of these data on a regular, periodic basis.

Geographic mobility is illustrative of problems which hold particular importance for nursing. Recognizing the effect of turnover on adequate nursing service, we are currently investigating this problem in its broadest outlines. Continuation of this study is proposed in order to (*a*) determine whether there are some factors causing high turnover rates whose effects could be reduced, and (*b*) develop methods of adaption for that degree of mobility which is inevitable and unavoidable.

The demand for highly trained and specially qualified public health nurses in the Public Health Service has been greatly intensified as a result of the expanded programs in the area of community health services. In order to provide the kind of experience and training necessary to deal with public health programs including nursing care of the sick at home, the Division assigns selected public health nurses to positions where this urgently needed experience can be provided. These career development positions are chosen on the basis of developing selected nurses for specific positions of leadership.

Assistance to State and local agencies to increase and improve their manpower resources will be continued. This includes making arrangements through contracts or other means for the preparation of nurses for home care programs.

The increase of $8,000 requested is for built-in changes including the pro rata share of the Bureau of State Services management fund.

Administration of grants

1964 estimate	$233,000
1965 estimate	213,000
Decrease	−20,000

The Division of Nursing administers two grants programs—the professional nurse traineeship program and the nursing research program of grants and awards for nursing research, nurse research fellowships, and nursing research training. Administration of these programs consists in the allocation of training grants for traineeships under the professional nurse traineeship program. and, under the nursing research program, the review of grants for research, fellowships, and research training, and the issuance of grant awards.

Both of these grants programs require the collection and analysis of statistical and budgetary information; issuance of informational data and releases; consultation services; and other necessary operations.

The purpose of the professional nurse traineeship program has been to increase the supply of professional nurses who are qualified to teach in the various fields of nurse training or to serve in an administrative or supervisory capacity.

The responsibility for the nursing aspects of the public health traineeship program entails the evaluations of the allocations of traineeships for public health nurses, and maintenance of close working relations with schools preparing public health nurses.

As required by the Public Health Service Act an evaluation conference was held in July 1963, to evaluate the professional nurse traineeship program which expires June 30, 1964. Implementation of the recommendation to accelerate and broaden this program is the subject of a legislative proposal in 1965. The evaluation conference recommended continuance and some modifications in the program.

The decrease of $20,000 is due to the nonrecurring costs of $23,000 for the evaluation conference offset by built-in costs.

Regional nurse consultants

1964 estimate	$210,000
1965 estimate	214,000
Increase	+4,000

The regional nursing consultants, in carrying out the nursing program in the field, provide consultant and technical service to State health departments, and other local health agencies, hospitals, nursing homes, voluntary agencies, and community groups in relation to public health and hospital nursing problems.

The increase of $4,000 is requested for built-in changes including the pro rata share of the "Bureau of State Services management fund."

HOSPITAL CONSTRUCTION ACTIVITIES

WITNESSES

DR. HARALD M. GRANING, CHIEF, DIVISION OF HOSPITAL AND MEDICAL FACILITIES

DR. AARON W. CHRISTENSEN, DEPUTY CHIEF, BUREAU OF STATE SERVICES

WILLIAM B. BURLEIGH, SPECIAL ASSISTANT TO CHIEF, DIVISION OF HOSPITAL FACILITIES

JOHN W. HAMBLETON, FINANCIAL MANAGEMENT OFFICER FOR COMMUNITY HEALTH PROGRAMS

DR. LUTHER L. TERRY, SURGEON GENERAL

HARRY L. DORAN, CHIEF FINANCE OFFICER

JAMES F. KELLY, DEPARTMENT BUDGET OFFICER

Object classification

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
11 Personnel compensation:			
Permanent positions	1,749	2,072	2,506
Positions other than permanent	8	10	20
Other personnel compensation		16	9
Total, personnel compensation	1,757	2,098	2,535
12 Personnel benefits	151	187	224
21 Travel and transportation of persons	170	165	254
22 Transportation of things	9	9	12
23 Rent, communications, and utilities	24	25	50
24 Printing and reproduction	80	36	117
25 Other services	49	73	99
Services of other agencies		1	
Research contracts	195	115	115
Payment to Bureau of State Services management fund	64	46	67
26 Supplies and materials	27	15	45
31 Equipment	65	10	60
33 Investments and loans	103		
41 Grants, subsidies, and contributions	215,358	224,143	173,768
Total obligations	218,051	226,923	177,346

Personnel summary

	1963 actual	1964 estimate	1965 estimate
Total number of permanent positions	243	245	287
Full-time equivalent of other positions	1	1	2
Average number of all employees	199	219	265
Employees in permmanent positions, end of year	205	225	280
Employees in other positions, end of year	12	1	2
Average GS grade	9.5	9.5	9.4
Average GS salary	$8,706	$9,213	$9,020

Program and financing

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
Program by activities:			
1. Grants:			
(*a*) Construction of hospitals, etc., under pt. C of the Public Health Service Act	153, 845	146, 972	105, 000
(*b*) Construction of medical facilities under pt. G of the act:			
(1) Chronic disease hospitals	10, 542	18, 194	14, 000
(2) Diagnostic or treatment centers	15, 375	19, 333	14, 000
(3) Rehabilitation facilities	7, 843	9, 357	7, 000
(4) Nursing homes	24, 257	26, 810	14, 000
(*c*) Construction under the Mental Retardation Facilities and Community Health Center Construction Act:			
(1) University-affiliated facilities for the mentally retarded under pt. B of title I of the act			7, 500
(2) Facilities for the mentally retarded under pt. C of title I of the act			10, 000
Total construction grants	211, 862	220, 666	171, 500
2. Hospital and medical facility research	4, 094	4, 209	3, 012
3. Operations and technical services	1, 979	2, 048	2, 834
Total program costs, funded [1]	217, 936	226, 923	177, 346
Change in selected resources [2]	115		
Total obligations	218, 051	226, 923	177, 346
Financing:			
Comparative transfer from other accounts		−12	
Unobligated balance brought forward	−146, 879	−154, 666	−154, 000
Unobligated balance carried forward	154, 666	154, 000	
Unobligated balance lapsing	376		
New obligational authority	226, 214	226, 245	23, 346
New obligational authority:			
Appropriation	226, 220	226, 220	23. 346
Transferred to—			
"Salaries and expenses, Office of the Surgeon General" (42 U.S.C. 226)		−1	
"Operating expenses, Public Buildings Service," General Services Administration (76 Stat. 728)	−6		
Appropriation (adjusted)	226, 214	226, 219	23. 346
Proposed transfer from "National Heart Institute" due to the Uniformed Services Pay Act of 1963		26	

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[1] Includes capital outlay as follows: 1963, $65,000; 1964, $10,000; 1965, $54,000.

[2] Selected resources as of June 30 are as follows: Unpaid undelivered orders, 1962, $165,000 (1963 adjustments, $2,000); 1963, $282,000; 1964, $282,000; 1965, $282,000.

Proposed for separate transmittal:

Program and financing

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
Program by activities: Medical facility planning and construction support (cost—obligations)			270, 000
Financing: New obligational authority (proposed supplemental appropriation)			270, 000

Mr. FOGARTY. Dr. Graning we are glad to have you here.

GENERAL STATEMENT

Dr. GRANING. It is an honor and a privilege to appear before you in behalf of the Hill-Burton program and the new programs authorized by the Mental Retardation Facilities and Community Mental Health Centers Construction Act of 1963. We have great hopes that the programs authorized by Public Law 88–164 will achieve the same success in the mental health and mental retardation fields as the Hill-Burton program has attained in the provision of hospitals and other medical facilities.

The total request for activities included in the budget is $23,346,000. This amount will provide $7,500,000 to assist in the construction of mental retardation facilities which are associated with a college or university; $10 million to be allotted among the States to assist in the construction of facilities for the care and treatment of the mentally retarded; $3,012,000 to support research and demonstration studies designed to develop new organization patterns of providing hospital services and improving the operation, utilization, and design of health facilities; and $2,834,000 for salaries and expenses to administer the mental retardation and mental health facility construction programs and the Hill-Burton program which assists in the construction of hospitals and other medical facilities.

MENTAL RETARDATION FACILITIES

The $7,500,000 requested for construction of mental retardation facilities associated with a college or university will help launch a two-pronged attack on the problem of mental retardation. First, it will provide additional facilities within which physicians and other specialized personnel may receive training in the knowledge and skills needed for the optimum management of mentally retarded patients. Second, these facilities providing diagnostic, treatment, education, training, and other necessary services will serve as excellent demonstrations of the advantages of specialized and mental retardation centers.

The amount of $10 million requested for this program is the first step in providing a network of community-oriented facilities for the care and treatment of the mentally retarded. This program will be administered through State agencies designated by the Governors and will be operated in accordance with the administrative machinery and policies and procedures followed by its well-known companion measure—the Hill-Burton program. As of January 20, 1964, 23 State agencies have been designated to administer the program.

The development of regulations, policies, and procedures to be followed in operation of the program is practically complete. No delays are expected in placing the program in operation.

RESEARCH AND DEMONSTRATION STUDIES

The amount of $3,012,000 is requested for the research and demonstration studies relating to hospital services, facilities, and resources. These studies are a means of bringing the physical plant, equipment, and organizational and operational aspects of our health facilities up to peak efficiency. We place a high priority on this program because we are convinced that these activities will eventually lead to dramatic improvements in hospital organization, operation, and design.

SALARIES AND EXPENSES

The amount of $2,834,000 is requested for salaries and expenses to administer the Hill-Burton program and the new grant programs for construction of mental health centers and mental retardation facilities. This represents an increase of $752,000 of which almost one-half, $353,000, is necessary to cover built-in costs and the annualization and full utilization of positions already authorized. The amount of $399,000 is required to support 34 new positions to operate the 2 new formula grant programs for the construction of mental retardation facilities and mental health centers which were authorized by Public Law 88–164.

I would be glad, to the extent of my ability, to answer questions on the budget request.

Mr. Fogarty. You are in a very peculiar position, just having assumed this spot, and your authorization has run out.

Dr. Graning. Yes, sir.

Mr. Fogarty. I don't think there is any question but what it is going to be extended.

Now the overall comparison of 1964 apropriations and the 1965 budget does not mean much since authority for the whole Hill-Burton construction program expires at the end of this year and you have new activities under other legislation.

RELATION BETWEEN PROGRAM AND PERSONNEL

We have this situation, that your overall program is way down but there is no cut in personnel—in fact, there is an increase. What is the explanation for that?

Mr. Kelly. Let me just give you the rationale that is on this one.

Mr. Fogarty. It must be pretty good because every time we get new programs, or enlarged and expanded programs, it takes additional personnel to take care of them.

Mr. Kelly. The concept we had here was (1) that even though the authorization expired we had to liquidate this program and the Congress were not to extend it, all of the funds which have heretofore been appropriated, which are now going into projects, would have to be finished out.

(2) It was our thought that it was likely that it would be extended. It was very difficult to try and distinguish a liquidating budget from an extension budget. It did not seem worthy of this kind of treatment and in the event of its extension, we do not contemplate requesting expanded staff, except if the Congress were to expand—except to the extent they expand and modify the program.

Mr. Fogarty. Well, there is no question in my mind but what it is going to get extended all right.

What about the nursing program?

Mr. Kelly. The nursing program—we did not have an expiration of authority there.

Mr. FOGARTY. You had a cut in program and no cut in personnel.

Mr. KELLY. No significant cut in program; but what we have is a new——

Mr. FOGARTY. The professional nurse training program expires.

Mr. KELLY. Yes, that is right. It requires new legislation.

FACILITIES FOR MENTALLY RETARDED UNDER PART B

Mr. FOGARTY. You are asking for $7,500,000 for facilities for the mentally retarded under part B of title I.

Mr. KELLY. Yes, sir.

Mr. FOGARTY. Is this the maximum authorized?

Mr. KELLY. Yes, it is.

Mr. FOGARTY. Have you approved any applications under the $5 million you now have?

Dr. GRANING. No, sir.

Mr. FOGARTY. What is your estimate of approvable applications during 1964 and 1965?

Dr. GRANING. The full extent of the funds, sir, for both years.

Mr. FOGARTY. Then you won't have more applications that you can't finance?

Dr. GRANING. I am sorry. Yes, we will have more applications.

Mr. FOGARTY. Than the amount authorized?

Dr. GRANING. Yes, sir.

Mr. FOGARTY. This was in my opinion, way less than Congress should have authorized in this particular area. I think you will find this is not going to be anywhere near the amount sufficient to cover the number of applications that will be approved. Is there any question in your mind about that?

Dr. GRANING. No, sir. We already have expressions of interest from 12 universities, without having given any publicity to it whatsoever.

Mr. FOGARTY. Do you have the full responsibility of administering this program?

Dr. GRANING. Yes, sir.

FACILITIES FOR THE MENTALLY RETARDED UNDER PART C

Under part C of title I, you are requesting $10 million for facilities for the mentally retarded.

Dr. GRANING. Yes, sir.

Mr. FOGARTY. How does this differ from facilities under part B?

Dr. GRANING. The part B authorization relates to university affiliated facilities. It will be administered on a project grant basis. The $10 million requested under part C is a formula grant program with funds allocated to those State agencies that are designated by the Governor to administer the mental retardation program.

Mr. FOGARTY. Have you received any indication from the State of Rhode Island as to their program?

Dr. GRANING. No, sir. The State of Rhode Island has not as yet designated the unit of State government that will administer the program.

Mr. FOGARTY. I thought it was the Department of Health.

Dr. GRANING. We have had no official designation from the State of Rhode Island, sir.

Mr. FOGARTY. I am sure it is the Department of Health, but I will find out why they have not made the designation known to you.

This will be new in 1965.

Dr. GRANING. Yes, sir.

Mr. FOGARTY. Do you have any indication of the volume of approvable applications you may receive?

Dr. GRANING. No, sir, but the $10 million when distributed to the States means a relatively small amount of money per State when considered in relation to construction costs. We certainly believe that in most States it will be oversubscribed.

Mr. FOGARTY. What is the matching?

Dr. GRANING. 33⅓ to 66⅔ percent.

Mr. FOGARTY. And on the part B, what is the matching formula?

Dr. GRANING. Seventy-five percent.

Mr. FOGARTY. Do you have the full responsibility for administering this program?

Dr. GRANING. I am sorry. Part B is a project grant request. It is not a formula program.

Mr. FOGARTY. Are there any matching funds?

Dr. GRANING. The formula grant program is a 66⅔-percent Federal.

Mr. FOGARTY. You are talking about part B now?

Dr. GRANING. Part C.

Mr. FOGARTY. That is $10 million?

Dr. GRANING. Yes, sir.

Mr. FOGARTY. What about part B?

Dr. GRANING. This is a project grant—75 percent and 25.

Mr. FOGARTY. That goes to the universities?

Dr. GRANING. Yes, sir.

Mr. FOGARTY. The $10 million program is part C, do you have the full responsibility for administering this program?

Dr. GRANING. Yes, sir. I do.

NIH RESPONSIBILITY FOR RELATED FACILITIES

Mr. FOGARTY. Why does NIH have the responsibility for the Centers for research on mental retardation?

Dr. GRANING. Because the concept in development of that part of the program is that the structures that are built in that authorization will have as a primary focus or purpose the research interests of the university. This does not mean that a particular university might not make application for funds from both part A and B. Administratively, part A has been placed in the National Institute of Child Health and Human Development, since it has a research oriented focus: whereas under part B the act provides for university-affiliated facilities that are going to be helpful in terms of turning out more personnel who know how to cope with mental retardation. They train the personnel and also give demonstrations in the field.

Mr. FOGARTY. Are there any problems in these programs? These are all new programs.

Dr. GRANING. No, sir. I am glad to report we have developed a joint application form with the National Institutes of Health, and everything is progressing very well.

RESEARCH PROGRAM ON HOSPITAL CONSTRUCTION

Mr. FOGARTY. Have you been able to look into your research program on hospital construction since you have been on the job?

Dr. GRANING. To some extent, yes, sir.

Mr. FOGARTY. How many grants have been made this year for research?

Dr. GRANING. The number of grants?

Mr. FOGARTY. Yes. And where are they and how much? What is the total amount.

Dr. GRANING. The total amount is $4.2 million.

Mr. FOGARTY. Is that the full authorization?

Dr. GRANING. For this year.

Mr. HAMBLETON. $10 million is the full authorization.

Mr. KELLY. The full appropriation is $4.2 million in 1964.

Mr. FOGARTY. All right. Tell us about some of these research projects you have under way.

Dr. GRANING. As indicated, sir, the research projects offer hope for many things. A number of these projects have been addressed to such things as trying to find how one can reduce the high cost of hospitalization. I believe such projects have been reported to the committee previously.

It might be of interest to tell you about two projects that were funded this past year, relating to the matter of the administration of medication within a hospital. Two projects were funded. One at the University of Arkansas, and the other at the University of Iowa, relate to seeing whether we cannot improve the method of administration of medication, minimizing errors, and reducing costs. Both of these particular university institutions have had an interest with a very excellent pharmacy, and they are trying systems in which there will be medication that will go directly from the pharmacy in a single unit dosage concept to the patient, minimizing any possible errors in terms of interpretation of physician's orders, transmittal of orders, and filling of orders. The Federal Hospital Council viewed with great interest these applications at its last November session.

In like maner, the Federal Hospital Council has had an interest in supporting, through these same funds, greater consideration on the part of communities of the need for thinking through the specifics with reference to hospital construction. I am referring to what has become known as areawide planning grants. These have been funded through this same source of funds.

At the last meeting of the Federal Hospital Council, there were applications before it that had high merit, that could not be completely funded, and we know that we already have applications of merit pending before the March meeting.

GEORGETOWN HOSPITAL

Dr. **Graning.** This, as you know, is a provision in the act which makes it possible for the Hill-Burton program to give financial support for experimental construction projects. I am sure it will be of interest to this particular committee to know that since its request that particular consideration be given to a project that was referred to in the last year's appropriation hearings, we have had very substantive conversations with that university and their application is pending.

Mr. **Fogarty.** Which one are you talking about now?

Dr. **Graning.** Georgetown.

Mr. **Fogarty.** When was that application finally submitted?

Dr. **Graning.** It is going to be submitted before the March council.

Mr. **Fogarty.** We held hearings a few years ago with the group from Mayo and were very favorably impressed with their ideas.

Dr. **Graning.** Well, the work of the Mayo project is progressing.

Mr. **Fogarty.** Tell us about the Georgetown project. When was that application submitted?

Dr. **Graning.** The application will be presented before the March meeting of the Federal Hospital Council. This is a request for planning money.

Mr. **Fogarty.** The application had not been submitted the last I heard, was the reason I asked.

Dr. **Graning.** The application for planning grant money in the amount of $300,000, as referred to in the Senate committee report, will be presented before the Federal Hospital Council meeting March 26 and 27 of this year. It has not been approved by the hospital council as yet but the work has progressed on it so that the application for planning grant money is going to be submitted.

ROCHESTER PROGRAM

Mr. **Fogarty.** What about the Rochester program?

Dr. **Graning.** This has been progressing very satisfactorily.

Mr. **Fogarty.** Tell us what it is now. Let's go back to that. Start from the beginning.

Dr. **Graning.** Well in this respect, Mr. Chairman, the developmental history of the Mayo project goes back several years and this it not something with which I am personally familiar, but Mr. Burleigh can speak to this.

Mr. **Fogarty.** That is all right. Go ahead.

Mr. **Burleigh.** $3,500,000 was given to the memorial project back in 1962, I believe, and in addition, $1,500,000 was granted from last year's appropriation. Basically, this is for a circular nursing unit research project.

Mr. **Fogarty.** As I remember the testimony of the doctors when they appeared before the committee, it was to the effect that they had a 12-bed unit that they had built. Some of the statistics on savings, they gave us at that time were amazing, and we included funds over the budget to do some research in hospital construction. They said that 60 percent of the hospital population is a regular hospital population;

about 20 percent should not be in the hospital; and 20 percent demand intensive care.

Dr. Graning. Yes, sir.

Mr. Fogarty. And it was in this later area that they were carrying on the experiment with this circular unit. They said that they thought they could reduce costs from $54 a day down to $14. Fifty-four dollars was the cost for the nurses around the clock; that they could reduce the walking required of a nurse on an 8-hour shift by a mile a day.

Mr. Burleigh. I think, Mr. Chairman, in previous hearings, the former Chief of the Division expressed some reservation regarding the magnitude of such savings.

Mr. Fogarty. Yes, he did; they did not use any of that money that year, did they?

Mr. Burleigh. I beg your pardon?

Mr. Fogarty. They did not use any of that money that year?

Mr. Burleigh. The money obligated for the project?

Mr. Fogarty. The money appropriated that year hadn't been obligated when we held hearings on the following year's budget.

I think Dr. Haldeman did not agree with some of their conclusions at the time.

Mr. Kelly. There was a delay in the approval of the project because it involved, first, the values associated with the project and, secondly, how much of the project constituted a research undertaking. There was some period of time, after you appropriated it, time in excess of budget, before a final determination was made as to how much of it would be allocated to that particular thing.

Mr. Fogarty. The following year nothing had been allocated?

Mr. Kelly. That is right, but the allocations incurred were out of that money but not when it was first appropriated.

Mr. Fogarty. What are they doing out there? How far along is that project? Is it just an intensive care unit now?

Mr. Burleigh. They are constructing, Mr. Chairman, circular nursing units; double corridor nursing units; and single corridor nursing units within the same structure. This will provide an ideal environment within which you can judge the effectiveness of each of these differing nursing units in respect to the utilization of personnel and care of the patients.

They have started some of their construction. They do not have the complete job underway as yet but the money has been available for some time. This is a matter or a problem of the applicant getting plans and specifications together, which is a time consuming process. Even in the conventional hospital projects, architectural drawings require from 12 to 18 months, and here, where you get into an experimental area, it is a more time-consuming process. This is not a matter of the funds not being available. The funds are there and waiting. It is a problem of the applicant getting geared up for construction.

Mr. Fogarty. What other projects are underway in the research construction area? Any?

Dr. Graning. None at the moment, sir.

Mr. Fogarty. Have any applications been approved?

Dr. GRANING. None other than the one to which I referred, that is pending and will go before the Federal Hospital Council for planning money.

Mr. FOGARTY. Mr. Denton?

HILL-BURTON EXTENSION ACT

Mr. DENTON. What is the status of this Hill-Burton Extension Act? Has legislation been introduced?

Mr. KELLY. It has been submitted. A letter was sent to the Speaker of the House—the President of the Senate—accompanied by a bill. I do not believe it has been introduced yet.

Mr. DENTON. How long ago?

Dr. TERRY. It came up on Monday.

Mr. DENTON. How come you waited so long before you tried to renew the legislation?

Dr. GRANING. As far as I know, sir, this is the first opportunity that we have had to submit a revision of the Hill-Burton Act.

Mr. DENTON. What do you mean by that? You can submit it any time.

Dr. TERRY. As a matter of fact, Mr. Denton, I believe I am correct in that discussions with the chairman of our committee during the last session of Congress indicated that they did not expect to take it up during that session and, therefore, it was not necessary or appropriate for us to submit something during the previous session.

Mr. DENTON. Do you have a hearing scheduled on it?

Dr. TERRY. No, sir. Except this: We have discussed it.

Mr. DENTON. You might have some difficulty getting it through this session.

Dr. TERRY. We may have some difficulty but I am quite confident we will get an extension of such an important program.

Mr. DENTON. Well, I certainly hope you do.

Dr. TERRY. I certainly hope so, too.

Mr. DENTON. That is all.

Mr. FOGARTY. Is there anything else you want to say?

Dr. GRANING. No.

Mr. FOGARTY. Thank you very much.

JUSTIFICATION MATERIALS

(The justification material submitted to the committee follows:)

HOSPITAL CONSTRUCTION ACTIVITIES

Amounts available for obligation

	1964	1965
Appropriation	$226,220,000	$23,346,000
Supplemental appropriation pending before Congress	5,049,000	
Transferred to "Salaries and expenses, Office of the Surgeon General"	−1,000	
Comparative transfer to "Salaries and expenses, Office of the General Counsel"	−15,000	
Comparative transfer from "Salaries and expenses, Office of the Surgeon General"	12,000	
Proposed transfer from "National Heart Institute"	26,000	
Total	231,291,000	23,346,000

Obligations by activities [1]

Description	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Position	Amount	Position	Amount	Position	Amount
1. Grants:						
(*a*) Construction of hospitals, etc., under Pt. C of the Public Health Service Act.	------	$150,000,000	------	------------	------	−$150,000,000
(*b*) Construction of medical facilities under pt. G of the act:						
(1) Chronic disease hospitals	------	20,000,000	------	------------	------	−20,000,000
(2) Diagnostic or treatment centers	------	20,000,000	------	------------	------	−20,000,000
(3) Rehabilitation facilities	------	10,000,000	------	------------	------	−10,000,000
(4) Nursing homes	------	20,000,000	------	------------	------	−20,000,000
(*c*) Construction under the Mental Retardation Facilities and Community Mental Health Centers Construction Act:						
(1) University-affiliated facilities for the mentally retarded under pt. B of title I of the act	------	5.000,000	------	$7,500,000	------	+2,500,000
(2) Facilities for the mentally retarded under pt. C of title I of the act	------	------------	------	10,000,000	------	+10,000,000
2. Hospital and medical facility research	49	4,209,000	49	3,012,000	------	−1,197,000
3. Operations and technical services:						
(*a*) Hospital and medical facilities construction program	196	2,048,000	196	2,349,000	------	+301,000
(*b*) Mental health and mental retardation facilities	8	34,000	42	485,000	+34	+451,000
Total obligations	253	231,291,000	287	23,346,000	+34	−207,945,000

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[1] Hospital construction grants are on an allocation basis.

Obligations by objects

	1964 estimate	1965 estimate	Increase (+) or decrease (−)
Total number of permanent positions	253	287	+34
Full-time equivalent of all other positions	1	2	+1
Average number of all employees	222	265	+43
Number of employees at end of year:			
Permanent positions	233	280	+47
Other	1	2	+1
11 Personnel compensation:			
Permanent positions	$2,090,200	$2,506,400	+$416,200
Positions other than permanent	10,000	19,600	+9,600
Other personnel compensation	16,800	9,000	−7,800
Total personnel compensation	2,117,000	2,535,000	+418,000
12 Personnel benefits	189,000	224,000	+35,000
21 Travel and transportation of persons	167,000	254,000	+87,000
22 Transportation of things	9,000	12,000	+3,000
23 Rent, communications, and utilities	25,000	50,000	+25,000
24 Printing and reproduction	38,000	117,000	+79,000
25 Other services	72,600	98,600	+26,000
Services of other agencies	1,000	------------	−1,000
Research contracts	115,000	115,000	------------
Payment to "Bureau of State Services management fund"	47,400	67,400	+20,000
26 Supplies and materials	17,000	45,000	+28,000
31 Equipment	16,000	60,000	+44,000
41 Grants, subsidies, and contributions	229,142,558	173,768,000	−55,374,558
Total obligations by object [1]	231,956,558	177,346,000	−54,610,558

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[1] Includes funds carried over for obligational purposes from prior years.

Summary of changes

1964 enacted appropriation	$226,220,000
Supplemental appropriation pending before Congress	5,049,000
Comparative transfer to "Salaries and expenses, Office of the General Counsel"	−15,000
Comparative transfers from other accounts	12,000
Transferred to "Salaries and expenses, Office of the Surgeon General"	−1,000
Proposed transfer from "National Heart Institute"	26,000
Total estimated obligations, 1964	231,291,000
1965 estimated obligations	23,346,000
Total change	−207,945,000
Increases	
A. "Built-in":	
1. Annualization of step 2 of civil service pay increase:	
(*a*) Hospital and medical facilities research	10,000
(*b*) Operations and technical services	43,000
2. Annualization of uniformed service pay increase:	
(*a*) Hospital and medical facilities research	3,000
(*b*) Operations and technical services	3,000
3. Annualization of 8 mental retardation positions and related costs, new in 1964	53,000
4. Pro rata share of annualization of new positions in 1964 for the management fund	19,500
Subtotal, "built-in" increases	131,500
B. Program increases:	
1. Construction under the Mental Retardation Facilities and Community Mental Health Centers Construction Act:	
(*a*) Increase for university-affiliated facilities for the mentally retarded under pt. B of title I of the act	2,500,000
(*b*) Initiation of construction of facilities for the mentally retarded under pt. C of title I of the act	10,000,000
2. Expansion in operations and technical services related to mental retardation facilities and mental health centers programs (34 positions)	399,000
3. To provide funds for full-year employment in positions for which dollars were available only for first several months of 1964	245,000
Subtotal, program increases	13.144,000
Gross increases	13,275,500
Decreases:	
1. 1 less day's pay in 1965 (262 days in 1964; 261 days in 1965):	
(*a*) Hospital and medical facilities research	−1,300
(*b*) Operations and technical services	−6,500
2. Nonrecurring equipment and services of other agencies	−4,000
3. Construction under pts. C and G of the Public Health Service Act	−220,000,000
4. Hospital and medical facilities research	−1,208,700
Subtotal, decreases	−221,220,500
Total, net change requested	−207,945,000

EXPLANATION OF CHANGES

Construction of facilities for the mentally retarded

An increase of $2,500,000 is requested for university-affiliated facilities for the mentally retarded which will permit further expansion of this program designed to (*a*) aid in the training of physicians and other specialized personnel essential to the care of the mentally retarded, and (*b*) demonstrate the advantages which occur from comprehensive inpatient and outpatient services being provided to the mentally retarded.

An increase of $10 million is requested to initiate a program of grants to States for the construction of mental retardation facilities. Funds appropriated will be allocated among the States on a formula basis and projects will be selected for approval by designated State agencies in accordance with the approved State plans and priority system.

Operations and technical services

An increase of $399,000 is requested to carry out the administrative functions incident to the new mental retardation facilities and mental health construction programs to activate the new formula grant programs in mental health and mental retardation.

The increase of $245,000 requested for 1965 will allow the Division of Hospital and Medical Facilities an increase of 17 man-years of service with related costs to further the services rendered the State agencies in the Hill-Burton construction program.

Hospital and medical facilities construction program

A decrease of $220 million for construction purposes is due to expiration on June 30, 1964 of parts C and G of the Public Health Service Act. This is the subject of a legislative proposal for 1965.

Hospital and medical facilities research program

A decrease of $1,208,700 results from a reduction in the experimental construction program.

Explanation of transfers

	1964, estimate	1965, estimate	Purpose
Transfer to "Salaries and expenses, Office of the Surgen General."	−$1,000	------------	Centralization of grants policy activities.
Proposed transfer from "National Heart Institute."	26,000	------------	Proposed transfer due to Uniformed Services Pay Act of 1963.
Comparative transfer to "Salaries and expenses, Office of the General Counsel."	−15,000	------------	Transfer to Office of the General Counsel for legal services.
Comparative transfer from "Salaries and expenses, Office of the Surgeon General."	12,000	------------	Decentralization of cost of accounting point activities.

1964 Senate report

The committee received testimony from officials of the Georgetown University School of Medicine and Hospital urging support, under the terms of section 636, for the establishment of a unit to permit full exploitation of the modern advances in medical instrumentation, techniques, and knowledge. The $300,000 added by the committee would be adequate to provide the Federal portion of planning funds for such a unit.

The committee expects each sponsor seeking a grant of funds for the experimental construction of a portion or unit of a hospital or other medical facility to demonstrate, to the satisfaction of the Surgeon General, that: (1) The proposed construction of the unit involved is, in fact, experimental in design; (2) the facilities resulting from construction of the experimental unit will provide the physical environment within which the efficiency and economy of the experimental design can be tested and evaluated; and (3) a study design has been developed which will permit the scientific evaluation of the efficiency and economy of the experimental unit (p. 26 of Senate report).

Action taken or to be taken

The project has been discussed with officials of Georgetown University, and they have been invited to submit an application. Officials of the university indicated that an application would be submitted at an early date in 1964, consistent with the requirements as set forth in the second paragraph to the left.

Hospital construction activities

	Budget estimate to Congress	House allowance	Senate allowance	Appropriation
1955	$110, 000, 000	$90, 700, 000	$110. 000, 000	$96, 000, 000
1956	125. 000, 000	96, 000, 000	125, 000, 000	111, 000, 000
1957	130. 000, 000	111, 000, 000	130. 000, 000	125, 000, 000
1958	121, 200, 000	121, 200. 000	121. 200, 000	121, 200, 000
1959	121, 200. 000	121, 200, 000	211. 200, 000	186, 200, 000
1960	101, 200, 000	143, 700, 000	211, 200. 000	186, 200. 000
1961	126. 200. 000	150, 000. 000	211, 200, 000	186, 200, 000
1962	[1] 196, 972. 000	[2] 187, 972, 000	221, 972. 000	211, 500, 000
1963	[3] 176, 220, 000	188, 572, 000	226. 220, 000	226, 220, 000
1964	179, 514, 000	177, 914. 000	228, 214. 000	226, 220, 000
Proposed supplemental	5, 049, 000	----------	----------	----------
1965	23, 346, 000	----------	----------	----------

[1] Includes $1,772,000 for activities transferred in the estimates from "Salaries and expenses, hospital construction services."

[2] Supplemental of $9,000,000 not considered by the House.

[3] Includes $4,200,000 for activities transferred in the estimates from "Hospital and medical facility research."

Hospital and medical facilities construction program

	1964 estimate	1965 estimate	Increase (+) or decrease (−)
Grants for hospital and medical facilities construction:			
Part C	$150, 000, 000	0	−$150, 000, 000
Part G	70, 000, 000	0	−70, 000, 000
Total	220, 000, 000	0	−220, 000, 000

Existing legislation provides funds for the construction phase of the program through fiscal year 1964. Funds appropriated for 1964 are available for a 2-year period. Therefore, funds remaining unobligated as of June 30, 1964, will be obligated in fiscal year 1965. Continuation of this program in 1965 is the subject of a legislative proposal.

Funds provided for 1964 will assist in the construction of 666 projects involving 26,896 hospital and long-term care facility beds.

Mental retardation facilities construction program

	1964 estimate	1965 estimate	Increase (+) or decrease (−)
Grants for construction of university affiliated facilities for the mentally retarded	$5,000,000	$7,500,000	+$2,500,000
Grants for construction of facilities for the mentally retarded	0	10,000,000	+10,000,000
Total grants for the construction of facilities for the mentally retarded	5,000,000	17,500,000	+12,500,000

Public Law 88–164, titled "Mental Retardation Facilities and Community Mental Health Centers Construction Act of 1963," approved October 31, 1963, authorizes appropriation of funds for special project grants to assist in the construction of mental retardation facilities associated with a college or university and on a formula basis to assist public and other nonprofit agencies in the construction of facilities for the mentally retarded.

Part B of title I of the act authorizes appropriation of funds for fiscal years 1964 through 1967 for project grants totaling $32,500,000 to assist in the construction of public or other nonprofit facilities for the mentally retarded which are associated with a college or university. These facilities must provide as nearly as practicable a full range of inpatient and outpatient services for the mentally retarded and aid in demonstrating the provision of specialized services for the diagnosis, treatment, education, training or care of the mentally retarded or in the clinical training of specialized personnel needed for research, diagnosis, treatment, education, training, or care of the mentally retarded. The Secretary is authorized to approve grants under this part in amounts which do not exceed 75 percent of the necessary cost of construction.

The construction grant funds included in a supplemental request for 1964 in the amount of $5 million represent the first step in a concentrated attack on the problem of caring for the mentally retarded. The funds requested will permit the construction of a few comprehensive centers designed to (1) demonstrate the effectiveness of specialized services and facilities being provided for the care of the mentally retarded, and (2) aid in training medical and other personnel in the care of the mentally retarded. University and colleges with their study resources and staff provide the ideal environment for demonstrating to communities and States the advantages of specialized mental retardation services and for the training of medical and other personnel required for the comprehensive care of the mentally retarded.

The amount of $7,500,000, the full amount authorized to be appropriated for fiscal year 1965, is requested for the following reasons:

1. It is essential that clinical training programs for physicians and other specialized personnel needed for research and the comprehensive care of the mentally retarded be accelerated to the maximum extent. The program of assisting in the construction of community facilities for the care of the mentally retarded will begin July 1, 1964, and it is important that clinical training programs be activated as rapidly as possible to make some inroads into the scarcity of professional and specialized personnel needed to staff community facilities providing care for the mentally retarded.

2. It is also essential that demonstration projects be established throughout the country as rapidly as possible. Demonstration of the advantages to be derived from specialized services being provided in well-designed facilities in certain geographic areas will make a substantial contribution to knowledge regarding the staffing, internal organization and operation and functional layout of mental retardation facilities. Such knowledge will have a direct and significant carryover into the program of assisting communities in the construction and

operation of comprehensive and well-designed facilities for the care of the mentally retarded.

3. A significant number of universities and colleges have already indicated an intention to apply for funds under this program. The number of eligible sponsors will increase substantially during fiscal year 1965 as this aspect of the legislation and the requirements of the program receive more publicity.

Part C of title I authorizes appropriation of funds for fiscal years 1965 through 1968 for grants to the States totaling $67,500,000 for the construction, expansion, remodeling, replacement, and equipping of public and other nonprofit facilities for the mentally retarded. Facilities constructed from these funds will provide for the diagnosis, treatment, education, training, and care of the mentally retarded, including sheltered workshops, if they are a part of facilities which provide comprehensive services for the mentally retarded.

The funds made available will be allocated to the States on the basis of population, financial need, and extent of the mental retardation problem. The Federal share for the cost of constructing facilities may vary between 33⅓ and 66⅔ percent. Projects will be recommended for approval to the PHS by State agencies on the basis of a statewide inventory of need and a system of priority indicated in the approved State plans.

The construction of new or expanded community facilities for the care of the mentally retarded will enable communities to bring the benefits of modern techniques of medical care, education, training and rehabilitation to bear on behalf of the mentally retarded. A total of $10 million, the full amount authorized for fiscal year 1965, is requested for this item in 1965.

Hospital and medical facilities research

Description	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	49	$489,000	49	$500,700	--------	+$11,700
Other expenses	--------	3,720,000	--------	2,511,300	--------	−1,208,700
Total	49	4,209,000	49	3,012,000	--------	−1,197,000

Summary of program

Description	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Experimental and demonstration construction	--------	$1,800,000	--------	------------	--------	−$1,800,000
Research grants	--------	1,677,000	--------	$2,268,000	--------	+591,000
Intramural research	49	732,000	49	744,000	--------	+12,000
Total	49	4,209,000	49	3,012,000	--------	−1,197,000

Hospital and medical facilities research

This request will permit the approval of additional research and demonstration projects which will focus attention on such problems as (1) improving the operating efficiency of health facilities, (2) improving the layout of health facilities, (3) improving the coordination of community health facilities, and (4) developing more effective organizational patterns for the provision of health services. This research effort is essential to enable hospitals to keep pace with the rapid advances being made in medical research and the practice of medicine.

These funds will permit research studies and demonstrations relating to such areas as:

1. Improvements in hospital organization and patterns of service which may lead to greater efficiency and lower costs of operation.
2. Greater safety and efficiency in health facility operation through changes and improvements in the characteristics of facility design, construction, and equipment.
3. The utilization rates of health facilities and the impact of such rates in relation to the need for the various types of health facilities.
4. The testing of methodologies to be used in the areawide planning and coordination of hospitals and other health facilities.
5. Improvements in hospital statistics through uniform reporting.
6. Improvements in the design of hospitals.

Comparatively little research is being carried on relating to health facilities, resources, and services. Continued research effort regarding all aspects of hospital planning, design, organization, and operation represents our best hope of holding down the spiraling costs of care and treatment in health facilities.

The number of applications for extramural research grant funds which will be received and compete for funds in fiscal year 1965 is, of cousre, impossible to predict with accuracy. However, 1964 fiscal year funds are already insufficient to cover projects recommended for approval by the Federal Hospital Council and accepted by the Public Health Service as meriting financial support. In addition, 24 project applications requesting $3.8 million in Federal funds will be considered by the Federal Hospital Council at its March 1964 meeting.

Operations and technical services

			1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	204	$1,817,000	238	$2,258,300	+34	+$441,300
Other expenses		265,000		575,700		+310,700
Total	204	2,082,000	238	2,834,000	+34	+752,000

The estimate of $2,834,000 and the positions requested are necessary to the continuation of the Federal Government's role of providing national leadership in the planning, design, and construction of all types of health facilities, and to activate new programs of construction assistance in the fields of mental health and mental retardation.

The requested increase of $752,000 includes $644,000 for program expansion and $108,000 for net built-in costs. These funds will be used for the administration of grant programs for construction of (1) hospitals and other medical facilities under the Hill-Burton legislation, (2) mental health centers and facilities for the care and treatment of the mentally retarded as authorized by Public Law 88–164, and (3) mental retardation facilities associated with a college or university as authorized by Public Law 88–164.

Hospital and medical facilities construction program

An increase of $301,000 is requested to provide funds for full-year employment for positions for which dollars were available only for the first several months of 1964, and built-in costs such as annualization of civil service and military pay increases. Funds appropriated for administration of the Hill-Burton program are used to carry out the following distinct operational phases:

1. The provision of technical assistance and consultation, and maintenance of liaison with State agencies regarding all aspects of program administration. Successful program administration relies heavily on enlightened and aggressive State agency action.
2. Development and revision, on a continuous basis, of minimum standards of design, construction, and equipment. The present staff of professional architects,

engineers, and equipment specialists is constantly studying the changing requirements of medical practice and reflecting these requirements in the design and equipping of new facilities. This activity produces vital design information for use by States and communities in planning and constructing facilities, and gives maximum assurance that value will be received for each Federal dollar expended.

3. Review and approval of basic documents, such as State plans, applications, and architectural drawings and specifications; the inspection of projects, certification of payments, and surveillance of bid award procedures.

4. Acquisition and analysis of data relating to such problems as hospital and medical facility planning, progress made in meeting the health facility needs of the country and the changing patterns of inpatient and outpatient hospital care.

5. Development and issuance of regulations, procedures, and policies which are adaptable to the varying needs of the 54 distinct State agencies.

The operation of this program requires a large variety of specialized and highly technical skills relating to the planning, design, and construction of all types of hospital and medical facilities. For the most part these employees are in the professional or technical field of medicine, nursing, hospital administration, architecture, engineering, and equipment consultation.

Mental health and mental retardation facilities

An increase of $451,000 is requested for salaries and expenses to operate the new mental retardation facility and mental health center construction programs during 1965. These funds will be used to support the following activities:

A. *Construction of community mental health centers and facilities for the mentally retarded, 34 additional (23 professional, and 11 clerical), positions and $399,000.*—These funds are required for administration of the new formula grant program for construction of facilities for the mentally retarded, and to assist in administration of the grant program for construction of mental health centers. The staff requested is essential to carry out the following activities:

1. The development of regulations, procedures, policies;

2. Interpretation of the act, regulations, policies, and procedures to the general public, the professions involved, and the designated State administrative agencies;

3. Development of guide material to be used by State agencies and public and other nonprofit sponsors of projects in the planning, design, construction, and equipping of facilities;

4. Reviewing State plans and project applications, including architectural plans and specifications, for conformance with the legislation, regulations, and policies;

5. Maintaining surveillance over such matters as bidding and award procedures, payment of prevailing rates of wages, construction, and inspecting projects and certifying payments made to sponsoring institutions through the designated State agencies.

B. *Construction of university-affiliated facilities for the mentally retarded.*—No additional positions are requested for 1965. An amount of $52,000 is required to annualize the eight positions included in the supplemental budget request for 1964. These positions are essential as a means of carrying out the following activities:

1. Arranging site visits for the purpose of securing basic data and information which will enable the Advisory Council to evaluate the validity of the project in relation to the objectives of the program and its relative priority and urgency;

2. Reviewing, evaluating, and approving or disapproving applications after consultation with the Advisory Council;

3. Reviewing and approving architectural plans and specifications, maintaining surveillance over bidding and award procedures, payment of prevailing rates of wages, and construction, and inspecting projects and making payments as work progresses; and

4. Providing consultation and assistance to universities and university-affiliated sponsors of facilities for the mentally retarded regarding the program, design, construction, staffing, and organization of proposed facilities with particular reference to the demonstration features of particular services and facilities and the scope and nature of training programs to be established for physicians and other kinds of specialized personnel required in the care of the mentally retarded.

Allocations to States for construction of hospital and medical facilities

	Fiscal year		
	1963	1964	1965
Total	$220, 000, 000	$220, 000, 000	------------
Alabama	6, 751, 258	6, 553, 088	------------
Alaska	550, 000	550, 000	------------
Arizona	1, 839, 588	1, 945, 264	------------
Arkansas	4, 042, 557	3, 860, 450	------------
California	11, 367, 122	11, 080, 485	------------
Colorado	2, 104, 223	1, 921, 507	------------
Connecticut	1, 322, 305	1, 498, 234	------------
Delaware	550, 000	550, 000	------------
District of Columbia	609, 765	614, 710	------------
Florida	6, 910, 825	7, 400, 506	------------
Georgia	7, 454, 045	7, 287, 385	------------
Hawaii	889, 904	843, 315	------------
Idaho	1, 080, 159	1, 102, 033	------------
Illinois	7, 035, 732	7, 365, 195	------------
Indiana	5, 484, 103	5, 338, 196	------------
Iowa	3, 681, 791	3, 550, 732	------------
Kansas	2, 850, 391	2, 778, 731	------------
Kentucky	5, 818, 494	5, 697, 826	------------
Louisiana	5, 883, 018	5, 986, 401	------------
Maine	1, 550, 973	1, 473, 824	------------
Maryland	3, 011, 701	2, 980, 124	------------
Massachusetts	4, 458, 041	4, 264, 543	------------
Michigan	7, 867, 784	8, 309, 601	------------
Minnesota	4, 548, 505	4, 324, 045	------------
Mississippi	5, 488, 245	5, 335, 582	------------
Missouri	5, 186, 552	4, 785, 242	------------
Montana	937, 692	989, 078	------------
Nebraska	1, 834, 356	1, 759, 347	------------
Nevada	550, 000	550, 000	------------
New Hampshire	911, 926	883, 763	------------
New Jersey	4, 304, 362	4, 478, 577	------------
New Mexico	1, 493, 643	1, 530, 275	------------
New York	10, 639, 046	10, 612, 315	------------
North Carolina	9, 104, 857	8, 634, 576	------------
North Dakota	1, 131, 132	1, 115, 665	------------
Ohio	9, 135, 813	10, 036, 693	------------
Oklahoma	3, 683, 536	3, 689, 137	------------
Oregon	2, 109, 892	1, 951, 149	------------
Pennsylvania	11, 846, 037	12, 235, 657	------------
Rhode Island	1, 030, 573	1, 025, 032	------------
South Carolina	5, 252, 820	5, 100, 842	------------
South Dakota	1, 212, 224	1, 161, 710	------------
Tennessee	6, 884, 447	6, 784, 559	------------
Texas	13, 589, 493	13, 998, 928	------------
Utah	1, 349, 990	1, 347, 191	------------
Vermont	778, 448	743, 544	------------
Virginia	6, 127, 162	6, 323, 144	------------
Washington	2, 931, 916	3, 014, 560	------------
West Virginia	3, 124, 836	3, 075, 152	------------
Wisconsin	4, 781, 533	4, 640, 735	------------
Wyoming	614, 109	590, 141	------------
Guam	168, 504	164, 122	------------
Puerto Rico	6, 049, 994	6, 080, 777	------------
Virgin Islands	84, 578	86, 312	------------

Exhibit I

Allocations to States for construction of hospital and medical facilities for fiscal year ending June 30, 1963, as of July 1, 1962

State	Total allocation	Allocation under pt. C, hospitals	Allocation under pt. G, medical facilities				
			Total allocation under pt. G	Diagnostic or treatment centers	Chronic disease hospitals	Nursing homes	Rehabilitation facilities
Total	$220,000,000	$150,000,000	$70,000,000	$20,000,000	$20,000,000	$20,000,000	$10,000,000
Alabama	6,751,258	4,639,669	2,111,589	603,311	603,311	603,311	301,656
Alaska	550,000	200,000	350,000	100,000	100,000	100,000	50,000
Arizona	1,839,588	1,264,220	575,368	164,391	164,391	164,391	82,195
Arkansas	4,042,557	2,778,168	1,264,389	361,254	361,254	361,254	180,627
California	11,367,122	7,811,829	3,555,293	1,015,798	1,015,798	1,015,798	507,899
Colorado	2,104,223	1,446,086	658,137	188,039	188,039	188,039	94,020
Connecticut	1,322,305	908,728	413,577	118,165	118,165	118,165	59,082
Delaware	550,000	200,000	350,000	100,000	100,000	100,000	50,000
District of Columbia	609,765	259,765	350,000	100,000	100,000	100,000	50,000
Florida	6,910,825	4,749,327	2,161,498	617,571	617,571	617,571	308,785
Georgia	7,454,045	5,122,646	2,331,399	666,114	666,114	666,114	333,057
Hawaii	889,904	539,904	350,000	100,000	100,000	100,000	50,000
Idaho	1,080,159	730,159	350,000	100,000	100,000	100,000	50,000
Illinois	7,035,732	4,835,167	2,200,565	628,733	628,733	628,733	314,366
Indiana	5,484,103	3,768,841	1,715,262	490,075	490,075	490,075	245,037
Iowa	3,681,791	2,530,238	1,151,553	329,015	329,015	329,015	164,508
Kansas	2,850,391	1,958,875	891,516	254,719	254,719	254,719	127,359
Kentucky	5,818,494	3,998,645	1,819,849	519,957	519,957	519,957	259,978
Louisiana	5,883,018	4,042,988	1,840,030	525,723	525,723	525,723	262,861
Maine	1,550,973	1,065,876	485,097	138,599	138,599	138,599	69,300
Maryland	3,011,701	2,069,732	941,969	269,134	269,134	269,134	134,567
Massachusetts	4,458,041	3,063,700	1,394,341	398,383	398,383	398,383	199,192
Michigan	7,867,784	5,406,979	2,460,805	703,087	703,087	703,087	351,544
Minnesota	4,548,505	3,125,870	1,422,635	406,467	406,467	406,467	203,234
Mississippi	5,488,245	3,771,688	1,716,557	490,445	490,445	490,445	245,222
Missouri	5,186,552	3,564,355	1,622,197	463,485	463,485	463,485	231,742
Montana	937,692	587,692	350,000	100,000	100,000	100,000	50,000
Nebraska	1,834,356	1,260,625	573,731	163,923	163,923	163,923	81,962
Nevada	550,000	200,000	350,000	100,000	100,000	100,000	50,000
New Hampshire	911,926	561,926	350,000	100,000	100,000	100,000	50,000
New Jersey	4,304,362	2,958,087	1,346,275	384,650	384,650	384,650	192,325
New Mexico	1,493,643	1,026,477	467,166	133,476	133,476	133,476	66,738
New York	10,639,046	7,311,474	3,327,572	950,735	950,735	950,735	475,367
North Carolina	9,104,857	6,257,134	2,847,723	813,635	813,635	813,635	406,818
North Dakota	1,131,132	777,348	353,784	101,081	101,081	101,081	50,541
Ohio	9,135,813	6,278,406	2,857,407	816,402	816,402	816,402	408,201

Exhibit I—Continued

Allocations to States for construction of hospital and medical facilities for fiscal year ending June 30, 1963, as of July 1, 1962—Continued

State	Total allocation	Allocation under pt. C, hospitals	Allocation under pt. G, medical facilities				
			Total allocation under pt. G	Diagnostic or treatment centers	Chronic disease hospitals	Nursing homes	Rehabilitation facilities
Oklahoma	$3,683,536	$2,531,437	$1,152,099	$329,171	$329,171	$329,171	$164,586
Oregon	2,109,892	1,449,981	659,911	188,546	188,546	188,546	94,273
Pennsylvania	11,846,037	8,140,955	3,705,082	1,058,595	1,058,595	1,058,595	529,297
Rhode Island	1,030,573	680,573	350,000	100,000	100,000	100,000	50,000
South Carolina	5,252,820	3,609,896	1,642,924	469,407	469,407	469,407	234,703
South Dakota	1,212,224	833,076	379,148	108,328	108,328	108,328	54,164
Tennessee	6,884.447	4,731,201	2,153,246	615,213	615,213	615,213	307,607
Texas	13,589,493	9,339,110	4,250,383	1,214,395	1,214,395	1,214,395	607,198
Utah	1,349,990	927,754	422,236	120,639	120,639	120,639	60,319
Vermont	778,448	428,448	350,000	100,000	100,000	100,000	50,000
Virginia	6,127,162	4,210,772	1,916,390	547,540	547,540	547,540	273,770
Washington	2,931,916	2,014,902	917,014	262,004	262,004	262,004	131,002
West Virginia	3,124,836	2,147,482	977,354	279,244	279,244	279,244	139,622
Wisconsin	4,781,533	3,286,014	1,495,519	427,291	427,291	427,291	213,646
Wyoming	614,109	264,109	350,000	100,000	100,000	100,000	50,000
Guam	168,504	115,801	52,703	15,058	15,058	15,058	7,529
Puerto Rico	6,049,994	4,157,740	1,892,254	540,644	540,644	540,644	270,322
Virgin Islands	84,578	58,125	26,453	7,558	7,558	7,558	3,779

Note.—Basis of allocations, per statutory formula:

(*a*) Total population, as estimated by the Bureau of the Census: Provisional estimates of the United States, July 1, 1961 (series P-25, No. 239, dated Dec. 13, 1961); Puerto Rico and Virgin Islands, provisional estimates, July 1, 1961, except Guam, Apr. 1, 1960, census (series P-25, No. 238, dated Dec. 8, 1961).

(*b*) Allocation percentage for the fiscal years 1962 and 1963, as promulgated in the Federal Register, Sept. 10, 1960.

Exhibit II

Allocations to States for construction of hospital and medical facilities, for fiscal year ending June 30, 1963, as of June 30, 1963

State	Total allocation	Allocation under pt. C, hospitals	Allocation under pt. G, medical facilities				
			Total allocation under pt. G	Diagnostic or treatment centers	Chronic disease hospitals	Nursing homes	Rehabilitation facilities
Total	$220,000,000	$150,000,000	$70,000,000	$17,202,182	$15,439,116	$27,358,702	$10,000,000
Alabama	6,751,258	4,639,669	2,111,589	53,311	350,677	1,405,945	301,656
Alaska	550,000	200,000	350,000	157,991	142,009	-----	50,000
Arizona	1,839,588	1,264,220	575,368	129,690	-----	363,483	82,195
Arkansas	4,042,557	2,778,168	1,264,389	161,254	361,254	561,254	180,627
California	11,367,122	7,811,829	3,555,293	1,152,711	-----	1,894,683	507,899
Colorado	2,104,223	1,446,086	658,137	150,000	-----	414,117	94,020
Connecticut	1,322,305	908,728	413,577	118,165	83,003	153,327	59,082
Delaware	550,000	200,000	350,000	105,710	100,000	94,290	50,000
District of Columbia	609,765	259,765	350,000	100,000	100,000	100,000	50,000
Florida	6,971,527	4,749,327	2,222,200	617,571	617,571	617,571	369,487
Georgia	7,454,045	5,122,646	2,331,399	772,706	559,522	666,114	333,057
Hawaii	889,904	539,904	350,000	71,300	92	228,608	50,000
Idaho	1,080,159	730,159	350,000	-----	-----	300,000	50,000
Illinois	7,035,732	4,835,167	2,200,565	411,473	628,733	845,993	314,366
Indiana	5,484,103	3,768,841	1,715,262	790,075	190,075	490,075	245,037
Iowa	3,681,791	2,530,238	1,151,553	329,015	329,015	329,015	164,508
Kansas	2,850,391	1,958,875	891,516	254,719	-----	509,438	127,359
Kentucky	5,818,494	3,998,645	1,819,849	519,957	519,957	519,957	259,978
Louisiana	5,883,018	4,042,988	1,840,030	162,500	788,946	625,723	262,861
Maine	1,550,973	1,065,876	485,097	138,599	277,198	-----	69,300
Maryland	3,011,701	2,069,732	941,969	269,134	269,134	269,134	134,567
Massachusetts	4,458,041	3,063,700	1,394,341	398,383	422,198	374,568	199,192
Michigan	7,867,784	5,406,979	2,460,805	703,087	703,087	703,087	351,544
Minnesota	4,548,505	3,125,870	1,422,635	-----	623,853	595,548	203,234
Mississippi	5,427,543	3,771,688	1,655,855	490,445	490,445	490,445	184,520
Missouri	5,186,552	3,564,355	1,622,197	59,516	573,485	757,454	231,742
Montana	937,692	587,692	350,000	100,000	100,000	100,000	50,000
Nebraska	1,834,356	1,260,626	573,731	163,923	163,923	163,923	81,962
Nevada	550,000	200,000	350,000	-----	-----	300,000	50,000
New Hampshire	911,926	561,925	350,000	100,000	37,000	163,000	50,000
New Jersey	4,304,362	2,958,087	1,346,275	122,811	129,150	901,989	192,325
New Mexico	1,493,643	1,026,477	467,166	1,891	386,954	11,583	66,738
New York	10,639,046	7,311,474	3,327,572	950,735	950,735	950,735	475,367
North Carolina	9,104,857	6,257,134	2,847,723	813,635	1,627,270	-----	406,818
North Dakota	1,131,132	777,348	353,784	-----	-----	303,243	50,541
Ohio	9,135,813	6,278,406	2,857,407	816,402	326,402	1,306,402	408,201

EXHIBIT II—Continued

Allocations to States for construction of hospital and medical facilities, for fiscal year ending June 30, 1963, as of June 30, 1963—Continued

State	Total allocation	Allocation under pt. C, hospitals	Allocation under pt. G, medical facilities				
			Total allocation under pt. G	Diagnostic or treatment centers	Chronic disease hospitals	Nursing homes	Rehabilitation facilities
Oklahoma	$3, 683, 536	$2, 531, 437	$1, 152, 099	$329, 171	$329, 171	$329, 171	$164, 586
Oregon	2, 109, 892	1, 449, 981	659, 911	-----	-----	565, 638	94, 273
Pennsylvania	11, 846, 037	8, 140, 955	3, 705, 082	1, 058, 595	1, 058, 595	1, 058, 595	529, 297
Rhode Island	1, 030, 573	680, 573	350, 000	200, 000	-----	100, 000	50, 000
South Carolina	5, 252, 820	3, 609, 896	1, 642, 924	469, 407	769, 407	169, 407	234, 703
South Dakota	1, 212, 224	833, 076	379, 148	-----	-----	324, 984	54, 164
Tennessee	6, 884, 447	4, 731, 201	2, 153, 246	285, 213	615, 213	945, 213	307, 607
Texas	13, 589, 493	9, 339, 110	4, 250, 383	918, 685	-----	2, 724, 500	607, 198
Utah	1, 349, 990	927, 754	422, 236	120, 639	-----	241, 278	60, 319
Vermont	778, 448	428, 448	350, 000	280, 000	-----	20, 000	50, 000
Virginia	6, 127, 162	4, 210, 772	1, 916, 390	601, 208	622, 023	419, 389	273, 770
Washington	2, 931, 916	2, 014, 902	917, 014	262, 004	-----	524, 008	131, 002
West Virginia	3, 124, 836	2, 147, 482	977, 354	400, 000	42, 196	395, 536	139, 622
Wisconsin	4, 781, 533	3, 286, 014	1, 495, 519	427, 291	-----	854, 582	213, 646
Wyoming	614, 109	264, 109	350, 000	100, 000	100, 000	100, 000	50, 000
Guam	168, 504	115, 801	52, 703	15, 058	15, 058	15, 058	7, 529
Puerto Rico	6, 049, 994	4, 157, 740	1, 892, 254	540, 644	28, 207	1, 053, 081	270, 322
Virgin Islands	84, 578	58, 125	26, 453	7, 558	7, 558	7, 558	3, 779

NOTE.—Basis of allocations, per statutory formula:

(*a*) Total population, as estimated by the Bureau of the Census: Provisional estimates of the United States, July 1, 1961 (series P-25, No. 239, dated Dec. 13, 1961); Puerto Rico and Virgin Islands, provisional estimates July 1, 1961, except Guam, Apr. 1, 1960, census (series P-25, No. 238 dated Dec. 8, 1961).

(*b*) Allocation percentage for the fiscal years 1962 and 1963, as promulgated in the Federal Register, Sept. 10, 1960.

EXHIBIT III

Allocations to States for construction of hospital and medical facilities, for fiscal year ending June 30, 1964

State	Total allocation	Allocation under pt. C, hospitals	Allocation under pt. G, medical facilities				
			Total allocation under pt. G	Diagnostic or treatment centers	Chronic disease hospitals	Nursing homes	Rehabilitation facilities
Total	$220,000,000	$150,000,000	$70,000,000	$20,000,000	$20,000,000	$20,000,000	$10,000,000
Alabama	6,553,088	4,504,107	2,048,981	585,423	585,423	585,423	292,712
Alaska	550,000	200,000	350,000	100,000	100,000	100,000	50,000
Arizona	1,945,264	1,337,030	608,234	173,781	173,781	173,781	86,891
Arkansas	3,860,450	2,653,387	1,207,063	344,875	344,875	344,875	172,438
California	11,080,485	7,615,905	3,464,580	989,880	989,880	989,880	494,940
Colorado	1,921,507	1,320,701	600,806	171,659	171,659	171,659	85,829
Connecticut	1,498,234	1,029,776	468,458	133,845	133,845	133,845	66,923
Delaware	550,000	200,000	350,000	100,000	100,000	100,000	50,000
District of Columbia	614,710	264,710	350,000	100,000	100,000	100,000	50,000
Florida	7,400,506	5,086,558	2,313,948	661,128	661,128	661,128	330,564
Georgia	7,287,385	5,008,808	2,278,577	651,022	651,022	651,022	325,511
Hawaii	843,315	493,315	350,000	100,000	100,000	100,000	50,000
Idaho	1,102,033	752,033	350,000	100,000	100,000	100,000	50,000
Illinois	7,365,195	5,062,289	2,302,906	657,973	657,973	657,973	328,987
Indiana	5,338,196	3,669,081	1,669,115	476,890	476,890	476,890	238,445
Iowa	3,550,732	2,440,511	1,110,221	317,206	317,206	317,206	158,603
Kansas	2,778,731	1,909,894	868,837	248,239	248,239	248,239	124,120
Kentucky	5,697,826	3,916,263	1,781,563	509,018	509,018	509,018	254,509
Louisiana	5,986,401	4,114,608	1,871,793	534,798	534,798	534,798	267,399
Maine	1,473,824	1,012,997	460,827	131,665	131,665	131,665	65,832
Maryland	2,980,124	2,048,316	931,808	266,231	266,231	266,231	133,115
Massachusetts	4,264,543	2,931,130	1,333,413	380,975	380,975	380,975	190,488
Michigan	8,309,601	5,711,404	2,598,197	742,342	742,342	742,342	371,171
Minnesota	4,324,045	2,972,027	1,352,018	386,291	386,291	386,291	193,145
Mississippi	5,335,582	3,667,283	1,668,299	476,657	476,657	476,657	238,328
Missouri	4,785,242	3,289,020	1,496,222	427,492	427,492	427,492	213,746
Montana	989,078	639,078	350,000	100,000	100,000	100,000	50,000
Nebraska	1,759,347	1,209,245	550,102	157,172	157,172	157,172	78,586
Nevada	550,000	200,000	350,000	100,000	100,000	100,000	50,000
New Hampshire	883,763	533,763	350,000	100,000	100,000	100,000	50,000
New Jersey	4,478,577	3,078,241	1,400,336	400,096	400,096	400,096	200,048
New Mexico	1,530,275	1,051,797	478,478	136,708	136,708	136,708	68,354
New York	10,612,315	7,294,119	3,318,196	948,056	948,056	948,056	474,028
North Carolina	8,634,576	5,934,767	2,699,809	771,374	771,374	771,374	385,687
North Dakota	1,115,665	765,665	350,000	100,000	100,000	100,000	50,000

Exhibit III—Continued

Allocations to States for construction of hospital and medical facilities, for fiscal year ending June 30, 1964—Continued

State	Total allocation	Allocation under pt. C, hospitals	Allocation under pt. G, medical facilities				
			Total allocation under pt. G	Diagnostic or treatment centers	Chrnoic disease hospitals	Nursing homes	Rehabilitation facilities
Ohio	$10, 036, 693	$6, 898, 478	$3, 138, 215	$896, 633	$896, 633	$896, 633	$448, 316
Oklahoma	3, 689, 137	2, 535, 639	1, 153, 498	329, 571	329, 571	329, 571	164, 785
Oregon	1, 951, 149	1, 341, 075	610, 074	174, 307	174, 307	174, 307	87, 153
Pennsylvania	12, 235, 657	8, 409, 884	3, 825, 773	1, 093, 078	1, 093, 078	1, 093, 078	546, 539
Rhode Island	1, 025, 032	675, 032	350, 000	100, 000	100, 000	100, 000	50, 000
South Carolina	5, 100, 842	3, 505, 941	1, 594, 901	455, 686	455, 686	455, 686	227, 843
South Dakota	1, 161, 710	798, 473	363, 237	103, 782	103, 782	103, 782	51, 891
Tennessee	6, 784, 559	4, 663, 202	2, 121, 357	606, 102	606, 102	606, 102	303, 051
Texas	13, 998, 928	9, 621, 825	4, 377, 103	1, 250, 601	1, 250, 601	1, 250, 601	625, 300
Utah	1, 347, 191	925, 959	421, 232	120, 352	120, 352	120, 352	60, 176
Vermont	743, 544	393, 544	350, 000	100, 000	100, 000	100, 000	50, 000
Virginia	6, 323, 144	4, 346, 060	1, 977, 084	564, 881	564, 881	564, 881	282, 441
Washington	3, 014, 560	2, 071, 985	942, 575	269, 307	269, 307	269, 307	134, 654
West Virginia	3, 075, 152	2, 113, 632	961, 520	274, 720	274, 720	274, 720	137, 360
Wisconsin	4, 640, 735	3, 189, 698	1, 451, 037	414, 582	414, 582	414, 582	207, 291
Wyoming	590, 141	240, 141	350, 000	100, 000	100, 000	100, 000	50, 000
Guam	164, 122	112, 805	51, 317	14, 662	14, 662	14, 662	7, 331
Puerto Rico	6, 080, 777	4, 179, 475	1, 901, 302	543, 229	543, 229	543, 229	271, 615
Virgin Islands	86, 312	59, 324	26, 988	7, 711	7, 711	7, 711	3, 855

Note.—Basis of allocations, per statutory formula:

(*a*) Total population, as estimated by the Bureau of the Census: Estimates of the population of States and selected outlying areas, July 1, 1962 (series P-25, No. 272, Sept. 20, 1963).

(*b*) Allocation percentage for the fiscal years 1964 and 1965, as promulgated in the Federal Register, Sept. 13, 1962.

Tentative allocations to States for construction of mental retardation facilities under Public Law 88-164

	Fiscal year		
	1963	1964	1965
Total			$10,000,000
Alabama			208,615
Alaska			100,000
Arizona			100,000
Arkansas			117,162
California			652,952
Colorado			100,000
Connecticut			100,000
Delaware			100,000
District of Columbia			100,000
Florida			257,465
Georgia			236,374
Hawaii			100,000
Idaho			100,000
Illinois			406,940
Indiana			218,624
Iowa			133,441
Kansas			105,114
Kentucky			181,147
Louisiana			193,944
Maine			100,000
Maryland			137,850
Massachusetts			211,471
Michigan			360,775
Minnesota			167,207
Mississippi			165,154
Missouri			194,802
Montana			100,000
Nebraska			100,000
Nevada			100,000
New Hampshire			100,000
New Jersey			243,240
New Mexico			100,000
New York			648,143
North Carolina			278,652
North Dakota			100,000
Ohio			441,899
Oklahoma			124,238
Oregon			100,000
Pennsylvania			503,479
Rhode Island			100,000
South Carolina			160,800
South Dakota			100,000
Tennessee			213,218
Texas			504,341
Utah			100,000
Vermont			100,000
Virginia			214,650
Washington			130,993
West Virginia			101,192
Wisconsin			188,762
Wyoming			100,000
Guam			4,948
Puerto Rico			188,104
Virgin Islands			2,629
American Samoa			1,675

NOTE.—Allocations are tentative pending receipt of revised population and per capita income data.

Hospital construction activities—New positions requested, fiscal year 1965

Operations and technical services	Grade	Annual salary
Mental retardation program:		
3 architects	GS-13	$35,193
3 engineers	GS-13	35,193
1 hospital program specialist	GS-13	11,731
2 architects	GS-12	19,968
2 engineers	GS-12	19,968
3 hospital program specialists	GS-12	29,952
5 hospital program specialists	GS-11	42,120
4 hospital program specialists	GS-9	28,120
1 statistical clerk	GS-7	5,803
5 clerical assistants	GS-5	23,505
5 clerical assistants	GS-4	21,110
Total new positions (34)		272,663

HEALTH PROFESSIONS EDUCATIONAL ASSISTANCE

WITNESSES

DR. HARALD M. GRANING, CHIEF, DIVISION OF HOSPITAL AND MEDICAL FACILITIES

DR. AARON W. CHRISTENSEN, DEPUTY CHIEF, BUREAU OF STATE SERVICES

DR. ANDREW P. SACKETT, CHIEF, DIVISION OF COMMUNITY HEALTH SERVICES

WILLIAM B. BURLEIGH, DIVISION OF HOSPITAL AND MEDICAL FACILITIES

RAYMOND F. DIXON, DIVISION OF COMMUNITY HEALTH SERVICES

JOHN W. HAMBLETON, FINANCIAL MANAGEMENT OFFICER FOR COMMUNITY HEALTH PROGRAMS

DR. LUTHER L. TERRY, SURGEON GENERAL

HARRY L. DORAN, CHIEF FINANCE OFFICER

JAMES F. KELLY, DEPARTMENT BUDGET OFFICER

Object classification

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
11 Personnel compensation:			
Permanent positions			419
Positions other than permanent			1
Other personnel compensation			1
Total personnel compensation			421
12 Personnel benefits			42
21 Travel and transportation of persons			53
22 Transportation of things			2
23 Rent, communications, and utilities			20
24 Printing and reproduction			14
25 Other services			4
Payment to Bureau of State Services management fund			12
26 Supplies and materials			8
31 Equipment			6
33 Investment and loans			10,200
41 Grants, subsidies, and contributions			75,000
Total obligations			85,782

Personnel summary

	1963 actual	1964 estimate	1965 estimate
Total number of permanent positions			46
Average number of all employees			42
Employees in permanent positions, end of year			42
Employees in other positions, end of year			0
Average GS grade			10.2
Average GS salary			$9,019

Program and financing

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
Program by activities:			
1. Grants for construction of teaching facilities for medical, dental, and other health personnel			75,000
2. Student loans			10,200
3. Operations and technical services			582
Total obligations			85,782
Financing: New obligational authority: Appropriation			85,782

Appropriation pending in Congress:

HEALTH PROFESSIONS EDUCATIONAL ASSISTANCE

Program and financing

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
Program by activities:			
1. Grants for construction of teaching facilities for medical, dental, and other health personnel		25,000	
2. Student loans		5,100	
3. Operations and technical services		290	
Total obligations		30,390	
Financing: New obligational authority: (Pending supplemental appropriation)		30,390	

Mr. FOGARTY. All right, Dr. Graning.

GENERAL STATEMENT

Dr. GRANING. Mr. Chairman and members of the committee, it is an honor and a privilege to appear before you today in behalf of the Health Professions Educational Assistance Act of 1963. This very significant legislation recognized the acute need for making it possible to educate additional health personnel. Government witnesses, professional associations and educators had joined in testifying as to the need for enacting legislation. It became Public Law 88–129 on September 24, 1963.

Under the provisions of the program Federal funds would be made available on a project grant basis to assist in the construction of accredited teaching facilities in public or other nonprofit schools of medicine, osteopathy, dentistry, pharmacy, optometry, podiatry, nursing, and public health. The construction program is designed to increase the opportunities for training of professional health personnel by providing additional teaching facilities, and preventing the curtailment of enrollment or deterioration in the quality of training provided in existing schools by rehabilitating or replacing them.

The act provides for a total construction authorization of $175 million over a 3-year period beginning with fiscal year 1964. This legislation also authorized the appropriation of funds to be used for the purpose of assisting in the establishment of student loan funds which would permit students in financial need to attend schools of medicine, osteopathy, and dentistry.

A request in the amount of $85,782,000 is submitted to carry out the provisions of this act during 1965. This would provide $75 million for grants to assist in the construction and rehabilitation of the teaching facilities; $10,200,000 for student loan funds; and $582,000 for administration of the program.

A large number of schools have already indicated their intent to apply for construction assistance under this program. A total of 197 letters of intent have been received with cost estimates from 156 of these totaling $881 million.

Similarly, letters received from schools eligible for the loan program indicate that the amount of $22 million would be required to meet the total need. This program will increase the number of worthy students in these schools as measured by the academic standing of persons gaining admission, and should increase the quality and availability of medical care by enabling such individuals to pursue professional education in these fields who could not otherwise do so.

Mr. Chairman, I shall to the extent of my ability, be glad to answer any questions you may have concerning this program or the budget request.

SUPPLEMENTAL FOR 1964

Mr. Fogarty. The supplemental request for 1964 is $30,390,000 and the request for 1965 is $85,782,000.

Most of the supplemental request is for construction grants. Tell us how much for each category such as medicine, dentistry, and so forth, and tell us something of the total need in each. Tell us how much demand is there in each category as you can judge it from inquiries you have received so far, how will you allocate these funds, and what matching is required.

Dr. Graning. Yes, sir. Of the $25 million requested in our supplemental request, $15 million is for the purpose of building new schools and expanding existing facilities in all categories authorized in the bill, with the exception of schools of dentistry. There is a specific request of $5 million for dental schools. There is a $5 million item for renovation or replacement of existing facilities. This totals—15, and 5 and 5—$25 million in the supplemental—the 1965 request.

Mr. Fogarty. Where is the other $5,390,000?

Dr. Graning. Student loan funds.

Mr. Kelly. Student loan funds of $5,100,000.

Mr. Fogarty. There is $15 million for medical schools.

Dr. Graning. Yes.

Mr. Fogarty. $5 million for dental.

Dr. Terry. $15 million, Mr. Fogarty, for all categories except dentistry.

Mr. FOGARTY. What are the categories?

Dr. GRANING. The categories are medicine, nursing, optometry, osteopathy, pharmacy, podiatry, and public health.

The $15 million covers all of those categories.

EXPRESSIONS OF INTEREST

With reference to your request about the extent of interest that has been expressed in these various disciplines, we have 75 letters of intent in the field of medicine; 67 in nursing; 8 from the field of optometry; 24 from pharmacy; 3 from podiatry and 5 from schools of public health, for a total of 187. Various institutions also have expressed an interest in the sum of money that is not specifically earmarked for dentistry, with reference to dental schools. There are 37 dental schools asking for funds.

Mr. FOGARTY. Do you think these are all all firm requests?

Dr. GRANING. No, sir. These are letters of intent, as of the moment.

Mr. FOGARTY. We will put them in the record.

Dr. GRANING. Yes, sir.

(The information follows:)

Institutions expressing interest in constructing educational facilities for the health professions

	Facility	Type of construction
Alabama:		
Alabama, The University of (Birmingham)	Medical	Expansion and renovation expansion.
	Dental	Do.
Mobile Medical Center (Mobile)	Medical	New.
Alaska: Alaska Methodist University (Anchorage)	Nursing	Do.
Arizona:		
Arizona, The University of (Tucson)	Medical	Do.
Arizona State University (Tempe)	Nursing	Expansion and replacement.
Arkansas: Arkansas Medical Center, University of (Little Rock).	Pharmacy	
California:		
California, University of (Berkeley)	Medical—	
	San Francisco	Expansion and renovation.
	San Diego	New.
	Los Angeles	Expansion.
	Nursing—San Francisco.	Replacement.
	Pharmacy—San Francisco.	Expansion.
	Public health—Los Angeles.	
	Dental—Los Angeles.	New.
California College of Medicine (Los Angeles) (*See* Memorial Hospital of Long Beach.)	Medical	Replacement.
California Podiatry College (San Francisco)	Podiatry	Expansion and replacement.
California State Colleges, The (Inglewood)	Medical	
Chico State College (Chico)	Nursing	
Childrens Hospital of Los Angeles Los (Angeles)	Medical	Replacement and renovation.
Loma Linda University (Loma Linda)	Medical	
	Nursing	Replacement.
	Dental	Expansion.
Los Angeles College of Optometry (Los Angeles)	Optometry	Replacement.
Memorial Hospital of Long Beach, The (Long Beach). (*See* California College of Medicine.)	Medical	Expansion.
Pacific College of Physicians & Surgeons, University of (San Francisco).	Dental	Do.
Pacific, University of the (Stockton)	Pharmacy	Replacement.
Southern California, University of (Los Angeles)	Medical	Expansion.
	Dental	Do.
	Pharmacy	Do.

Institutions expressing interest in constructing educational facilities for the health professions—Continued

	Facility	Type of construction
Colorado: Colorado, University of (Denver)	Medical	Replacement, expansion, and renovation.
	Nursing	Do.
Connecticut:		
Bridgeport, University of (Bridgeport)	do	Replacement.
Connecticut, University of (Storrs)	Medical	Do.
	Dental	Do.
Yale University (New Haven)	Medical	
Delaware: None.		
District of Columbia:		
George Washington University, The	do	Replacement.
Georgetown University	do	Expansion and renovation.
	Dental	Expansion.
Florida:		
Florida, University of (Gainesville)	do	New.
Miami, University of (Miami)	Medical	Replacement.
	Nursing	
South Florida, University of (Tampa)	Medical	
Georgia:		
Emory University (Atlanta)	Nursing	Do.
	Dental	Expansion.
Georgia, University of (Athens)	Pharmacy	Replacement.
Hawaii: Hawaii, University of (Honolulu)	Medical	New.
	Public health	Expansion.
Idaho: Lewis-Clark Normal School (Lewiston)	Nursing	
Illinois:		
Chicago College of Osteopathy, The (Chicago)	Osteopathy	Expansion and replacement.
Chicago College of Podiatry	Podiatry	
Chicago Medical School	Medical	Do.
Chicago, The University of	do	Expansion.
Illinois, University of (Chicago)	Nursing	Replacement.
	Dental	
Illinois College of Optometry (Chicago)	Optometry	Expansion and replacement.
Illinois Wesleyan University (Bloomington)	Nursing	Renovate and rehabilitation.
Loyola University (Chicago)	Medical	Replacement.
	Dental	Expansion.
	Nursing	Do.
Indiana:		
Indiana State College (Terre Haute)	do	New.
Indiana University (Indianapolis)	Medical	Expansion.
	Dental	Renovation.
	Nursing	Expansion.
	Optometry	Replacement.
Valparaiso University (Valparaiso)	Nursing	New.
Wayne Allen County Medical Society (Fort Wayne).	Medical	
Iowa:		
Iowa, State University of (Iowa City)	Nursing	Replacement.
	Dental	Expansion.
Osteopathic Medicine & Surgery, College of (Des Moines).	Osteopathy	Expansion and replacement.
Kansas: Kansas Medical Center, University of (Kansas City).	Medical	Replacement and renovation.
Kentucky:		
Berea College (Berea)	Nursing	Replacement.
Louisville, University of (Louisville)	Medical	Do.
	Dental	Expansion.
Western Kentucky State College (Bowling Green)	Nursing	
Louisiana:		
Louisiana State University (Baton Rouge)	Medical	Expansion and renovation.
	Dental	New.
Loyola University (New Orleans)	do	Expansion.
McNeese State College (Lake Charles)	Nursing	Replacement.
Northeast Louisiana State College (Monroe)	do	Do.
	Pharmacy	Do.
Southwestern Louisiana, University of (Lafayette)	Nursing	Do.
Touro Infirmary of New Orleans (New Orleans)	Medical	
Tulane University (New Orleans)	do	Expansion.
Maine: None.		
Maryland:		
Columbia Union College (Takoma Park)	Nursing	Replacement.
Johns Hopkins University (Baltimore)	Medical	Expansion.
	Public health	Do.
Maryland, University of (College Park)	Medical	Expansion and replacement.
	Dental—Baltimore.	Expansion.
State Teachers College (Towson)	Medical	
	Nursing	

Institutions expressing interest in constructing educational facilities for the health professions—Continued

	Facility	Type of construction
Massachusetts:		
Boston University (Boston)	Medical	Replacement.
	Nursing	Expansion and renovation.
Harvard University (Boston)	Dental	Expansion.
Massachusetts, University of (Amherst)	Medical	New.
	Nursing	
New England Center Hospital (Boston)	Medical	Expansion.
Northeastern University (Boston)	Nursing	New.
Pratt-Clinic-New England Center Hospital (Boston).	Medical	
Tufts-New England Medical Center (Boston)	do	
	Dental	Expansion.
Michigan:		
Detroit, University of (Detroit)	do	Do.
Ferris State College (Big Rapids)	Pharmacy	Replacement.
Mercy College of Detroit (Detroit)	Nursing	Do.
Michigan Association of Osteopathic Physicians & Surgeons, Inc. (Farmington).	Osteopathy	New.
Michigan State University (East Lansing)	Medical	Do.
	Nursing	Expansion and replacement.
Michigan, The University of (Ann Arbor)	Medical	Do.
	Nursing	Do.
	Dental	Expansion.
	Public health	Expansion and replacement.
Wayne State University (Detroit)	Medical	
Minnesota:		
Mankato State College (Mankato)	Nursing	
Northern Association for Medical Education (St. Paul).	Medical	New.
Mississippi: Mississippi, The University of (University).	Pharmacy	Replacement.
Missouri:		
Kansas City College of Osteopathy and Surgery (Kansas City).	Osteopathy	Do.
Missouri, University of (Columbia)	Medical	Expansion.
	Dental—Kansas City.	Do.
St. Louis College of Pharmacy (St. Louis)	Pharmacy	Renovation.
St. Louis University (St. Louis)	Medical	Expansion, renovation, and replacement.
	Nursing	Expansion.
	Dental	Expansion and renovation.
Washington University of School Medicine (St. Louis).	Medical	Replacement.
	Dental	Expansion and renovation.
Montana: Montana State University (Missoula)	Medical	New.
Nebraska:		
Creighton University, The (Omaha)	do	Replacement.
	Pharmacy	
Nebraska, The University of (Lincoln)	Medical	
	Dental	Expansion.
Nevada: Nevada, University of (Reno)	Nursing	Replacement.
New Hampshire: St. Anselm's College (Manchester)	do	Do.
New Jersey:		
Fairleigh Dickenson University (Teaneck)	Dental	Expansion.
Rutgers University (New Brunswick)	Medical	New.
	Pharmacy	Expansion and replacement.
Trenton State College (Trenton)	Nursing	
New Mexico: New Mexico, The University of (Albuquerque).	Medical	New.
	Nursing	
New York:		
Albany Medical College (Albany Medical Center Hospital) (Albany).	Medical	Expansion.
Columbia University (New York)	do	Replacement and renovation.
	Nursing	Expansion.
	Dental	Do.
	Pharmacy	Expansion, renovation, and replacement.
D'Youville College (Buffalo)	Nursing	Replacement.
Mount St. Vincent, College of (New York)	do	
Mount Sinai Hospital, The (New York)	Medical	New.
Nassau County (Mineda)	do	Do.
New York University (New York)	Nursing	Expansion and replacement.
Optometric Center of New York (New York)	Optometry	
Montefiore Hospital (Yeshiva University) (New York).	Medical	Renovation.
Presbyterian Hospital, The (New York)	do	
Rochester, University of (Rochester)	do	
Russell Sage College (Troy)	Nursing	Replacement.
Skidmore College (Saratoga Springs)	do	Do.
Yeshiva University (New York)	Medical	Expansion.

Institutions expressing interest in constructing educational facilities for the health professions—Continued

	Facility	Type of construction
North Carolina:		
Duke University (Durham)	Medical	Replacement.
East Carolina College (Greenville)	Nursing	Do.
North Carolina, The University of (Chapel Hill)	Medical	Do.
	Dental	Expansion.
	Nursing	Replacement.
Wake Forest College (The Bowman Gray School of Medicine) (Winston-Salem).	Medical	Replacement, expansion, and renovation.
North Dakota: North Dakota State University (Fargo).	Pharmacy	Expansion.
Ohio:		
Akron, The University of (Akron)	Medical	New.
Cincinnati, University of (Cincinnati)	do	Replacement and renovation.
	Nursing	Replacement.
Ohio College of Podiatry (Cleveland)	Podiatry	Renovation.
Ohio Northern University (Ada)	Pharmacy	
Ohio State University, The (Columbus)	Medical	
	Nursing	Replacement.
	Dental	
	Pharmacy	Do.
	Optometry	Expansion.
Western Reserve University (Cleveland)	Medical	Do.
	Nursing	
	Dental	Do.
Oklahoma:		
Oklahoma, University of (Oklahoma City)	Medical	Expansion, renovation, and replacement.
Southwestern State College (Weatherford)	Pharmacy	Expansion.
Oregon:		
Oregon, University of (Portland)	Medical	Renovation and expansion.
Oregon State University (Corvallis)	Pharmacy	Do.
Pacific University (Forest Grove)	Optometry	Expansion.
Portland, University of (Portland)	Nursing	Replacement.
Pennsylvania:		
Duquesne University (Pittsburgh)	Pharmacy	Do.
Hahnemann Medical College (Philadelphia)	Medical	Expansion and replacement.
Jefferson Medical College, The (Philadelphia)	do	Renovation.
Misericordia College (Dallas)	Nursing	
Pennsylvania, University of (Philadelphia)	Medical	Replacement.
	Dental	Renovation.
	Nursing	Expansion and replacement.
Pennsylvania State College of Optometry, The (Philadelphia).	Optometry	Replacement.
Pennsylvania State University, The (University Park).	Medical	New.
	Nursing	Do.
Philadelphia College of Osteopathy (Philadelphia)	Osteopathy	Replacement.
Philadelphia College of Pharmacy and Science (Philadelphia).	Pharmacy	Expansion and renovation.
Pittsburgh, University of (Pittsburgh)	Nursing	
	Dental	Expansion.
	Public health	Do.
Podiatry, College of (Philadelphia)	Podiatry	Replacement.
St. Francis General Hospital and Rehabilitation Institute (Pittsburgh).	Medical (library)	
Temple University (Philadelphia)	Medical	Expansion and replacement.
	Dental	Renovation.
	Nursing	
	Pharmacy	
Women's Medical College of Pennsylvania (Philadelphia).	Medical	Expansion.
Rhode Island:		
Brown University (Providence)	do	New.
Salve Regina College (Newport)	Nursing	
South Carolina:		
South Carolina, Medical College of (Charleston)	Medical	Replacement.
	Nursing	Replacement and expansion.
	Dental	New.
South Carolina, University of (Columbia)	Nursing	
South Dakota:		
Augustana College (Sioux Falls)	do	Replacement.
South Dakota State College (Brookings)	Pharmacy	Expansion.
South Dakota, State University of (Vermillion)	Medical	Do.
Tennessee:		
Meharry Medical College (Nashville)	do	Replacement.
Southern College of Optometry (Memphis)	Optometry	Do.
Southern Missionary College (Collegedale)	Nursing	Renovation.
Tennessee, The University of (Memphis)	Medical	
Vanderbilt University (Nashville)	do	Expansion.
Texas:		
Midwestern University (Wichita Falls)	Nursing	New.
Texas Woman's University (Denton)	do	Replacement.
Texas, University of (Austin)	Medical	New.

Institutions expressing interest in constructing educational facilities for the health professions—Continued

	Facility	Type of construction
Utah:		
Utah, University of	Medical	Replacement.
	Nursing	Do.
	Pharmacy	Do.
Westminster College (Salt Lake City)	Request information.	
Vermont: Vermont, University of (Burlington)	Medical	Expansion and replacement.
Virginia:		
Hampton Institute (Hampton)	Nursing	Replacement.
Virginia, Medical College of (Richmond)	Medical	Expansion.
	Dental	Do.
	Nursing	Expansion and replacement.
	Pharmacy	
Virginia, University of (Charlottesville)	Medical	Expansion.
Washington: Washington, University of (Seattle)	Nursing	
West Virginia: Wesleyan (West Virginia Wesleyan College) (Buckhannon).	do	Replacement.
Wisconsin:		
Alverno College (Milwaukee)	do	Expansion.
La Crosse Lutheran Hospital (La Crosse)	Medical	
Marquette University (Milwaukee)	Dental	Expansion and renovation.
	Nursing	
Wisconsin, The University of (Madison)	Medical	Expansion.
	Nursing	Do.
Wyoming: None.		
Puerto Rico: Puerto Rico, University of (San Juan)	Medical	Expansion and replacement.
	Dental	Expansion.

APPLICATIONS

Mr. FOGARTY. All right, now. What about applications? You do not have any formal applications yet?

Dr. GRANING. No, sir. We have designed an application form. It is one application form that will meet the needs as they relate to both research and education in medicine. This has been worked out with the National Institute of Mental Health. Also, we can use the same form for the university affiliated facilities which we have discussed earlier, and this form has been cleared by the Bureau of the Budget and it is ready to go as far as we are concerned.

Mr. FOGARTY. What is the next step?

Dr. GRANING. We are awaiting, momentarily, the announcements with reference to the appointment of the Advisory Council authorized in this act and as soon as these people have been appointed and accepted, we will be meeting with this Advisory Council and we have felt up to this point, at least, that we should probably defer to the Council's final decision in terms of the final application.

Mr. FOGARTY. When are the applications going to be made available to these schools?

Dr. GRANING. Very soon, sir. We have them now.

Mr. FOGARTY. How do the schools get them?

Mr. KELLY. We have been awaiting the program being funded, sir.

ADVISORY COMMITTEE

Mr. FOGARTY. Why don't you have the Advisory Committee set up yet?

Dr. TERRY. The members of the Advisory Committee have all been approved and this will be established right away.

Mr. Kelly. We have some question of the propriety of sending out applications.

Mr. Fogarty. Let's get the Advisory Committee set up first.

How long have the Advisory Committee members been approved and awaiting formal action?

Dr. Graning. Those members of the Advisory Committee have been approved as of this morning, finally—the last group.

Mr. Fogarty. How long has it taken you to get an Advisory Committee selected?

Dr. Graning. It has been about 3 months.

Mr. Fogarty. They have to be cleared, do they—security clearance?

Dr. Terry. Yes.

Mr. Fogarty. It takes quite a while, doesn't it?

Dr. Graning. Yes.

Mr. Fogarty. Still on the supplemental—you do not want to make any decision on the allocation of these funds until you have a chance to talk this over with the Advisory Committee.

Dr. Graning. That is true, sir.

Mr. Fogarty. What matching is required?

Dr. Graning. For the construction of new schools and for major expansion, the Federal Government's share will be 66⅔ percent. For replacement of existing schools and for renovation of schools, the participation will be 50 percent.

STUDENT LOAN PROGRAM

Mr. Fogarty. You are requesting $5,100,000 for the student loan program.

Dr. Graning. Yes.

Mr. Fogarty. Tell us how it is similar and in what respects it differs from the NDEA student loan program.

Dr. Graning. I will ask Dr. Sackett to speak on this.

Dr. Sackett. This program is designed especially for the professional student. The period before repayments are required is longer and the amounts of money available for loans are larger.

Mr. Fogarty. Do you have that at your fingertips now?

Dr. Sackett. Yes, sir.

Mr. Fogarty. Let's spell it out.

Dr. Sackett. The program in NDEA usually requires repayment 1 year after graduation and it provides a maximum of only $1,000 per student per year; whereas this program would provide as much as $2,000 per student per year up to 4 years. Then there is a period of 3 years before start of repayment is required.

Mr. Fogarty. A medical student can take advantage of the NDEA program.

Mr. Kelly. Up until the school has obtained any funds under this.

Dr. Terry. In other words, the law provides that the same school cannot use this student loan program and NDEA.

Mr. Kelly. The student may have already exhausted all of his eligibility under NDEA while he was in college, prior to entering medical school.

Mr. Fogarty. That is right, too. All right, go ahead.

Dr. Sackett. Well sir, the total amount of funds available would be larger under this program and correspondingly, therefore, a greater number of students could be helped.

DEMAND FOR PROGRAM

Mr. Fogarty. What indications do you have of the demand for this program?

Dr. Sackett. Sir, we have made a survey which indicates that approximately $22 million would be required to meet all of the needs in these three eligible professional categories.

Mr. Fogarty. Do you mean from now until June 30?

Dr. Sackett. No, sir. I was speaking of total need in 1965.

Dr. Terry. The first full year of operation you are speaking of.

Dr. Sackett. Yes, sir. This is the total need.

Mr. Fogarty. Let's stick to the supplemental request of $5,100,000.

Dr. Sackett. Yes, sir. We have recently been in touch with the medical, dental, and osteopathic schools, and the indications are that substantially all of this money could be used this year. In some instances the university in which the professional school is located has withdrawn NDEA funds from the professional school, and the professional schools have been carrying students on credit, so that there is a real need. We satisfied ourselves on that point.

Mr. Fogarty. For the $5,100,000?

Dr. Sackett. Yes, sir.

EFFECT OF DELAY IN APPROPRIATION

Mr. Fogarty. Suppose you did not get this until April 15 or April 30. What would happen then to this request?

Dr. Sackett. Well, sir, we have asked the schools with respect to the April 1 date and the May 1 date. The figures they have given us have been substantially the same for the two dates.

REQUEST FOR ADMINISTRATIVE PERSONNEL

Mr. Fogarty. Now, you are requesting $290,000 for 48 permanent positions. Tell us why you need this many, what they will do, and what would happen if Congress should make a substantial cut in the number.

Dr. Graning. Yes, sir. I must admit sir, that I don't have the budget data here.

Mr. Hambleton. We asked for 39 in the construction program, 7 in the student loan program, and 2 are for legal services.

Dr. Sackett. $50,000 and and seven positions for the student loan portion of this program.

Mr. Fogarty. And the rest for construction?

Dr. Graning. Yes, sir.

Mr. Hambleton. $12,000 and 2 jobs for legal services and $228,000 and 39 jobs for the construction program.

Mr. Fogarty. How would this program be affected if you had money for only half of these positions?

Dr. Graning. Well, sir, there is a very great need for getting underway as soon as possible. It represents the culmination of a 10 to 12 year history of expressed need.

Mr. Fogarty. I am convinced of the need, but I am getting a lot more mail on other pending requests than I am on this one. I was asking some of these questions to give you people a chance to make a record.

Dr. Terry. Mr. Fogarty, I think you are not getting mail, because everybody feels since the legislation has been passed the Congress will appropriate for it and they are not worried about it. If they were fearful that Congress was not going to support it with appropriations, I think you would get a lot of mail.

Mr. Fogarty. We get a lot of mail on vocational education and the manpower development and training program, many times the amount we are getting on this.

Dr. Sackett. We are getting a great deal of correspondence.

Mr. Fogarty. Many?

Dr. Sackett. Several a day.

Mr. Fogarty. In total, about how many Members of Congress?

Dr. Sackett. Could you give us an estimate of it, Mr. Dixon?

Mr. Dixon. It would certainly be an estimate.

Mr. Fogarty. Give us an estimate now; then you can correct it in the record.

Mr. Dixon. I would say at least 100 letters.

Mr. Fogarty. You can expand on that answer if you want to when you get the transcript.

Mr. Dixon. Thank you, sir.

(The following was subsequently supplied:)

Inquiries Concerning the Student Loan Program

The Public Health Service has received almost 300 inquiries from Congressmen and their staff members. There have been 176 letters. The remainder were phone calls. Many of these have indicated that the Congressman had on hand several letters from constituents and we were requested to provide a number of information sheets for enclosure in his replies. In addition, we have received many more letters and phone calls from other people interested in the program. These have come from schools eligible to apply for grants or for establishment of student loan funds, and from students, potential students, and parents. These inquiries concerned when student loans would be available, how to apply for them, and other details about the program.

Dr. Sackett. Mr. Chairman, to indicate some of the work we have done already, I would like to offer you a copy of this Manual of Regulations and Procedures which has been prepared for this program.

Mr. Fogarty. All right.

1965 CONSTRUCTION GRANTS

Your 1965 request includes $75 million for construction grants. How does that break down by category?

Dr. Graning. $45 million will be made available for new schools and for the expansion of existing schools for the following professional disciplines: Medicine, nursing, optometry, osteopathy, pharmacy, podiatry, and public health; $15 million is specifically earmarked for new dental schools and for the expansion of existing dental schools; $15 million is specifically earmarked for the renovation, or replacement of existing schools.

Mr. Fogarty. Is this the full authorization?

Dr. Graning. Yes, sir. It is.

Mr. Fogarty. How much is authorized after 1965?

Dr. Graning. Another $75 million.

Mr. Fogarty. That is the end of it?

Dr. Graning. It is, sir.

1965 BUDGET FOR STUDENT LOANS

Mr. Fogarty. For 1965 your request for the student loan program is $10,200,000. Is this the full authorization?

Dr. Graning. It is, sir.

Mr. Fogarty. You told us, earlier, of the expected need and demand for this.

Dr. Sackett. Yes, sir. We have surveyed the eligible schools and they have indicated a total need of approximately $22 million.

TECHNICAL SERVICES FOR CONSTRUCTION PROGRAM

Mr. Fogarty. The request for operations and technical services is $1,164,000. On page 266 you say the construction grant program will be administered by the Division of Hospital and Medical Facilities. Does this mean that some of these funds will be transferred to the hospital construction activities appropriation and if so, how much?

Dr. Graning. No, sir.

APPROPRIATION LANGUAGE

Mr. Fogarty. The proposed appropriation language would make the student loan money as well as the construction money available until expended. Why is this necessary?

Dr. Graning. It is administratively desirable in that it places a premium on quality of application.

Mr. Fogarty. Now will you submit to the committee language that would be appropriate if we decided to make a separate appropriation for grants and loans, and for salaries and expenses?

Dr. Graning. Yes, sir.

EFFECT OF DELAY IN SUPPLEMENTAL APPROPRIATION

Mr. Fogarty. With regard to your supplemental, how would the fund requirements be affected if you didn't get it until about the first or middle of May?

Dr. Graning. They would be reduced, sir.

Mr. Fogarty. How would it affect the 1965 budget if you didn't get a supplemental?

Mr. Kelly. We submitted to you an estimate, Mr. Chairman, that did not change the amount of money for loans and for grants, but it did change the lapse on new positions.

Mr. Fogarty. Mr. Denton?

Mr. Denton. No questions.

Mr. Fogarty. Is there anything else you want to say on this?

Dr. Graning. No, sir.

Mr. Fogarty. Dr. Sackett, is there anything else you wanted to add?

Dr. Sackett. No, sir.

Mr. Fogarty. Dr. Terry, do you want to say anything about the importance of this supplement? What happens if you don't get it?

Dr. Terry. The problem is, you see, you lose 1 year of your 3 years' authorization and you lose that amount of money.

Mr. Fogarty. If you don't get this money this year, that is lost.

Dr. Terry. It is lost.

Mr. Fogarty. If you lost this amount, you never get it back unless you amend the law. That is not going to be easy. Isn't that right?

Mr. Kelly. That is correct.

Dr. Terry. It would be tragic for us to lose it; it really would.

Mr. Fogarty. I think so.

Mr. Kelly. If we knew how to encourage a joint resolution, we would be glad to encourage it.

Mr. Fogarty. We will reconvene at 10 o'clock tomorrow morning.

JUSTIFICATION MATERIAL

(The justification material submitted to the committee follows:)

(Note: Justification material submitted in connection with the request for a supplemental appropriation for 1964 appears beginning on p. 664.)

Health Professions Educational Assistance

Amounts available for obligation

	1964	1965
Appropriation		$85,782,000
Supplemental appropriation pending before Congress	$30,390,000	
Comparative transfer to "Salaries and expenses, Office of the General Counsel"	−12,000	
Total	30,378,000	85,782,000

Obligations by activities

Description	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
1. Grants for construction of teaching facilities for medical, dental, and other health personnel		$25,000,000		$75,000,000		+$50,000,000
2. Student loans		5,100,000		10,200,000		+5,100,000
3. Operations and technical services	46	278,000	46	582,000		+304,000
(a) Construction grant program	39	228,000	39	496,000		+268,000
(b) Student loan program	7	50,000	7	86,000		+36,000
Total obligations	46	30,378,000	46	85,782,000		+55,404,000

Obligations by objects

	1964 estimate	1965 estimate	Increase (+) or decrease (−)
Total number of permanent positions	46	46	
Average number of all employees	18	42	+24
Number of employees at end of year: Permanent positions	39	42	+3
11 Personnel compensation:			
Permanent positions	$176,000	$419,000	+$243,000
Positions other than permanent	1,000	1,000	
Other personnel compensation	3,000	1,000	−2,000
Total personnel compensation	180,000	421,000	+241,000
12 Personnel benefits	17,000	42,000	+25,000
21 Travel and transportation of persons	25,000	53,000	+28,000
22 Transportation of things	2,000	2,000	
23 Rent, communications, and utilities	15,000	20,000	+5,000
24 Printing and reproduction	7,000	14,000	+7,000
25 Other services	2,000	4,000	+2,000
"Bureau of State Services management fund"	6,000	12,000	+6,000
26 Supplies and materials	8,000	8,000	
31 Equipment	16,000	6,000	−10,000
33 Investments and loans	5,100,000	10,200,000	+5,100,000
41 Grants, subsidies, and contributions	25,000,000	75,000,000	+50,000,000
Total obligations by object	30,378,000	85,782,000	+55,404,000

Summary of changes

Supplemental appropriation pending before Congress	$30,390,000
Comparative transfers to other accounts	−12,000
Total estimated obligations, 1964	30,378,000
1965 estimated obligations	85,782,000
Total change	55,404,000

INCREASES

A. "Built in":	
1. Annualization of 46 positions new in 1964 and related expenses	316,000
Subtotal, "built-in" increase	316,000
B. Program increases:	
1. Increase in grants for construction of teaching facilities for medical, dental, and other health personnel	50,000,000
2. Increase in students loans	5,100,000
Subtotal, program increase	55,100,000
Gross increases	55,416,000
C. Decreases:	
1. 1 less day's pay in 1965 (262 days in 1964; 261 days in 1965)	−2,000
2. Nonrecurring equipment costs related to new positions authorized in 1964	−10,000
Subtotal, decreases	−12,000
Total net change requested	55,404,000

EXPLANATION OF CHANGES

Construction of teaching facilities for medical, dental, and other health personnel

An increase of $50 million is requested in accordance with provisions of Public Law 88–129, approved September 24, 1963. Such funds will be granted to assist in the construction or expansion of training facilities in selected public and other nonprofit schools of medicine, dentistry, osteopathy, pharmacy, optometry, podiatry, nursing, and public health who agree to increase their enrollment or for the remodeling or replacement of seriously obsolete facilities.

Student loans

An increase of $5,100,000 is requested to continue the support of students who would be in the second year of schools of medicine, dentistry, or osteopathy and support a group in the freshman class as well.

Explanation of transfers

	1964 estimate	1965 estimate	Purpose
Comparative transfer to "Salaries and expenses, Office of the General Counsel."	−$12,000		Transfer to Office of the General Counsel for legal services.

Health professions educational assistance

	Budget estimate to Congress	House allowance	Senate allowance	Appropriation
1955				
1956				
1957				
1958				
1959				
1960				
1961				
1962				
1963				
1964 [1]	$30,390,000			
1965	85,782,000			

[1] Pending supplemental,

Public Law 88–129, "Health Professions Educational Assistance Act of 1963," approved September 24, 1963, authorized the appropriation of funds for project grants to assist public or other nonprofit schools of medicine, dentistry, osteopathy, pharmacy, optometry, podiatry, nursing, and public health in the construction of teaching facilities. These funds will increase the opportunities for training of professional health personnel by providing additional teaching facilities, and will prevent the curtailment of enrollment or deterioration in the quality of training provided in existing schools by rehabilitating or replacing them. This is a 3-year program beginning with fiscal year 1964, with a total construction authorization of $175 million.

A request in the amount of $85,782,000 is submitted to carry out the provisions of the act during 1965. This amount provides $75 million for grants to assist in the construction and rehabilitation of teaching facilities for schools of medicine, osteopathy, dentistry, pharmacy, optometry, podiatry, nursing, or public health; $10,200,000 for a student loan fund in schools of medicine, dentistry, and osteopathy; and $582,000 for operations and technical services required in the administration of the programs.

Grants for construction of teaching facilities

The construction grant funds requested in the amount of $75 million would provide $45 million for the construction and expansion of medical and other health professional schools, excluding schools of dentistry: $15 million specifically for construction and expansion of dental schools; and $15 million for the replacement and rehabilitation of existing schools of all types.

The funds included in this request represent an important step in increasing the supply of physicians, dentists, and other health profession personnel. To maintain the present levels of supply of physicians and dentists in relation to population, the admissions during the next 10 years to medical schools must be increased by almost 50 percent and admissions to dental schools must be doubled. Specifically, to keep up with population increases alone, admissions to schools of medicine must be increased from 8,200 to 12,000 by 1971, and admissions to dental schools must be increased from 3,600 to 6,900. In order to meet this goal an estimated 20 new medical schools and 20 new dental schools must be constructed, and substantial numbers of existing schools must be expanded. In addition, a large-scale remodeling and replacement program must be undertaken if some schools are to avoid the curtailment of enrollment or deterioration in the quality of training in existing schools.

A large number of schools have already indicated their intent to apply for construction assistance under this program. Letters have been received from 70 medical schools and 5 osteopathic schools estimating cost of construction at $638 million. Of this number, 15 are for completely new schools. Letters have been received from 37 dental schools with estimates of $147 million. Other professional schools submitting letters of intent and estimates are: Nursing—49 letters with an estimate of $52 million; public health—6 letters with an estimate of $17 million; podiatry—2 letters with an estimate of $328,000; optometry—8 letters with an estimate of $6 million; and pharmacy—20 letters with an estimate of $20 million. A total of 197 letters of intent have been received with estimates from 156 of these totaling $881 million.

Projects will be approved on the basis of relative needs after consultation with the National Advisory Council on Education for the Health Professions.

Student loans

A total of $10,200,000 is requested for establishing student loan funds in medical, dental, and osteopathic schools as authorized by Public Law 88–129. Specifically, the funds will be used to (1) make Federal contribution to loan funds in those schools with which agreements are entered into to establish such funds and (2) provide Federal loans as authorized by section 744 to those schools which need to borrow Federal funds to meet the matching institutional contribution requirements.

The need for the full $10,200,000 which is authorized is extremely acute. We have recently solicited the 140 schools eligible for participation in this program for information concerning student loan needs. Their responses indicated that in 1965 17,000 students will need to borrow over $22 million.

The Health Professions Educational Assistance Act specifies that in the granting of loans, a school give preference to persons who enter as first-year students after June 30, 1963. Of the 17,000 students needing loans, 7,000 are eligible for this preference. However, other students will also need assistance, since students who enter before June 30, 1963, will have substantial critical needs which must be met from these loan funds resulting from the fact that prior to enactment of Public Law 88–129, these students could borrow from loan funds established under the National Defense Educational Assistance Act of 1958, but are now precluded from doing so. If the maximum permissible loans of $2,000 were made to each eligible student applying for a loan, about 5,000 students could receive assistance. We expect however that the average loan will be less than $2,000, so that assistance may be provided to more students.

The needs for this program were clearly demonstrated during the hearings which preceded enactment of the authorizing legislation. It was brought out that many capable students are barred from the health professions due to the high education costs; in the absence of adequate available support many potential members of these professions turn to other scientific disciplines where financial assistance is more readily available.

This loan program has been designed to encourage qualified but needy individuals to enter the fields of medicine, dentistry, and osteopathy. The financial assistance offered by this program will help to assure that the needed supply of physicians and dentists are drawn from the most capable individuals regardless of their financial or economic status and as a result will be helpful in improving the quality of medical care available to the public.

Operations and technical services

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	46	$197,000	46	$463,000	--------	+$266,000
Other expenses	--------	81,000	--------	119,000	--------	+38,000
Total	46	278,000	46	582,000	--------	+304,000

A. Construction grant program

This program will be administered by the Division of Hospital and Medical Facilities which has extensive experience in operating the Hill-Burton construction program. In 1964 and 1965, 39 positions for operations and technical services are required to:

1. Develop regulations, procedures, and policies governing administration of the program, interpret the act, regulations, and policies to the general public and the professions involved, and provide immediate program direction and supervision for the several distinct phases of the program, seven positions.

2. Provide technical assistance and consultation to professional schools, arrange and participate in site visits, and review, evaluate, and prepare staff papers pertaining to proposed projects for use by the National Advisory Council, seven positions.

3. Provide technical assistance and consultation to professional health schools pertaining to the planning, design, construction, and equipment of proposed facilities, and develop guide material pertaining to the design, construction, and equipment of health professions schools, 14 positions.

4. Study and evaluate the data relating to the need for facilities in specific geographic areas, develop data and formulas for use by the Council in applying principles of priority, and maintain surveillance over the progress of the program and evolving needs, five positions.

Six clerical assistants will provide secretarial and clerical assistance to the above professional groups.

The general functions to be undertaken by the 39 positions in this activity during 1964 and 1965 are outlined below:

1. Provide technical assistance and consultation to professional health schools regarding such problems as: the need for and urgency of the proposed construction; the relationship of the proposed construction to the program of the sponsoring agency; the design and functional layout of the facility; and the existing and proposed educational program of the institution and their relationship to the proposed construction as will permit Council members and the Surgeon General to evaluate the need and relative priority and urgency of the project.

2. Arrange for site visits of Council members to schools seeking Federal aid for purpose of securing basic data and information which will enable the National Advisory Council and the Surgeon General to evaluate the validity of the project and its relative priority and urgency.

3. Develop guide material pertaining to the design, construction, and equipment of professional health schools. The staff of professional health personnel, architects, engineers, and other specialists will constantly study the changing requirements of teaching programs and reflect these requirements in design and equipment guide material for use by medical, dental, and other health profession educational institutions. This activity will produce vital design information for use by schools in planning and constructing facilities, and give maximum assurance that value will be received for each Federal dollar expended.

4. Review, evaluate, and approve or disapprove applications, after consultation with the National Advisory Council. This activity requires that each application be evaluated in relationship to such statutory and policy requirements as the relative effectiveness of the project in increasing first-year enrollment, availability of local finances, conformance of architectural plans and specifications to established requirements; and the need for constructing, expanding, or rehabilitating the particular school involved.

5. Carry out all activities associated with the award of contracts and supervision of construction. This work involves such activities as obtaining wage rates from the Department of Labor, and maintaining surveillance over the payment of such rates by contractors, inspecting projects during construction, and making payments of Federal funds as construction progresses.

6. Develop and issue regulations, procedures, and policies which are adaptable to the several types of professional schools involved.

7. Maintain surveillance over progress made in producing additional teaching facilities and increasing enrollment, and the extent to which additional facilities are required in the various State or geographical areas of the country.

B. Student loan program

Three professional and four supporting positions in 1964 and 1965 will carry out the following administrative functions:

1. Review, evaluate, and revise regulations, procedures, and policies issued to implement the loan program as a means of assuring their validity and suitability.

2. Provide assistance and consultation to the 140 schools of medicine, dentistry, and osteopathy presently eligible for the loan program. Resolve questions concerning the eligibility for loans, method of computing amount of loans, computation of interest, methods for repayment, determination of needs, and a variety of other aspects related to the program.

3. Upon receipt of applications, review and analyze requests to determine amounts to be made available to the schools for (1) institutional loans to help meet their matching requirements and (2) for the loans to be made to students.

4. Develop and maintain a system of program and fiscal reports and records to assure availability of a wide range of data needed for management and evaluation of the program in such activities as (1) administration of the features of the act regarding repayment of institutional loans, (2) determination of the effectiveness of the program and its impact upon the composition of the student population of the profession receiving loans, and (3) recommendation for changes in the program to assure maximum effectiveness.

An increase of $304,000 is requested for built-in costs. This includes $268,000 for annualization of 39 positions related to planning and construction of facilities and $36,000 for annualization of seven positions related to student loan services.

ENVIRONMENTAL HEALTH SCIENCES

WITNESSES

DR. ROBERT J. ANDERSON, CHIEF, BUREAU OF STATE SERVICES
HARRY G. HANSON, ASSOCIATE CHIEF FOR ENVIRONMENTAL HEALTH, BUREAU OF STATE SERVICES
PETER J. BERSANO, FINANCIAL MANAGEMENT OFFICER, BUREAU OF STATE SERVICES
DR. LUTHER L. TERRY, SURGEON GENERAL
HARRY L. DORAN, CHIEF FINANCE OFFICER
LOYAL C. FISHER, ASSISTANT DEPARTMENT BUDGET OFFICER

Object classification

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
11 Personnel compensation:			
Permanent positions	421	554	1,132
Positions other than permanent	3	3	13
Other personnel compensation	87	98	100
Total personnel compensation	511	655	1,245
12 Personnel benefits	51	64	132
21 Travel and transportation of persons	34	64	140
22 Transportation of things	16	19	44
23 Rent, communications, and utilities	59	41	208
24 Printing and reproduction	3	9	24
25 Other services	27	53	92
Research contracts		103	1,907
Services of other agencies		8	45
Payment to—			
Bureau of State Services management fund	9	26	86
National Institutes of Health management fund			46
26 Supplies and materials	73	74	153
31 Equipment	26	112	459
32 Lands and structures	2		
41 Grants, subsidies, and contributions	1,216	3,127	6,309
Total obligations	2,027	4,355	10,890

Personnel summary

	1963 actual	1964 estimate	1965 estimate
Total number of permanent positions	72	87	197
Full-time equivalent of other positions		1	2
Average number of all employees	61	75	148
Employees in permanent positions, end of year	69	87	195
Employees in other positions, end of year	0	0	5
Average GS grade	7.2	7.9	8.4
Average GS salary	$6,589	$7,581	$7,725
Average salary of ungraded positions	$7,667	$7,667	$7,667

Program and financing

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
Program by activities:			
1. Grants:			
(a) Research	-------------	1, 608	3, 447
(b) Training	1, 216	1, 519	2, 862
2. Arctic Health Research Center	754	751	783
3. Research, training, and technical services	56	453	3, 798
Total program costs, funded [1]	2, 027	4, 331	10, 890
Change in selected resources [2]	-------------	24	-------------
Total obligations	2, 027	4, 355	10, 890
Financing: Comparative transfers from other accounts	−2, 027	−120	-------------
New obligational authority	-------------	4, 235	10, 890
New obligational authority (appropriation)	0	4, 224	10, 890
Transferred to "Operating expenses, Public Buildings Service," General Services Administration (77 Stat. 436)	-------------	−4	-------------
Appropriation (adjusted)	0	4, 220	10, 890
Proposed transfer from "National Heart Institute" due to Uniformed Services Pay Act of 1963	-------------	15	-------------

[1] Includes capital outlay as follows: 1963, $58,000; 1964, $237,000; 1965, $459,000.

[2] Selected resources as of June 30 are as follows: Unpaid undelivered orders, 1964, $24,000; 1965, $24,000.

Appropriation pending before Congress:

ENVIRONMENTAL HEALTH SCIENCES

Program and financing

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
Program by activities: Research, training, and technical services (costs—obligations)	-------------	1, 200	-------------
Financing: New obligational authority (pending appropriation)	-------------	1, 200	-------------

Mr. FOGARTY. We have the environmental health services this morning. Dr. Anderson.

Dr. ANDERSON. Good morning.

GENERAL STATEMENT

Mr. Chairman and members of the committee, the contamination and pollution of our environment is one of the most complex health problems facing our Nation today. These problems are aggravated daily by the growth of our population, the development of new technologies, and the accelerated momentum of our industrialization and urbanization. Every day new chemicals are being put on the market and new uses are being found for those already available, with the result that we find more and more chemical residues in our environment. In our efforts to study the health effects of all these chemicals we are not able to work as fast as they appear—so that we are falling behind. At the same time, however, we are becoming increasingly aware that the accumulation of these chemicals in the environment and in our bodies may indeed be harmful to us in the long run.

Last year we presented to you our plans for a new approach to these basic health problems through the development of an environmental health sciences program. In addition to our categorical programs which focus primarily on controlling the route of exposure to specific environmental hazards, we must develop a comprehensive and integrated approach to understanding the complexities of our environment and its impact on our health. To this end we are supporting through grants, contracts, and in our own facilities, research to assess the biological effects of environmental contaminants. What we are seeking to find is the total effect that such contaminants have upon our health, regardless of whether they reach our bodies through the air we breathe, the water we drink, the food we eat, or any combination of these.

PESTICIDES

The rising concern over the increasing use of pesticides exemplifies very well this problem and we are now devoting our efforts to the development of a program to determine the levels of these chemicals in the environment, their effect upon human health, and the development of preventive and control methods to minimize their health hazards. Following the release of the report of the President's Science Advisory Committee on the "Use of Pesticides," the Public Health Service submitted a 1964 supplemental appropriation request for $1,200,000 to initiate pesticide studies. These include six community pesticide studies, studies of specific occupational groups experiencing high pesticide exposures, and toxicological research to investigate the chronic effects of long-term exposures. In 1965 we are requesting an additional $1,644,000 and 56 positions to continue the six community studies to be started in 1964 and to initiate six new ones to expand the studies of selected occupational groups exposed to pesticides; to expand our pesticide toxicological research; and to establish a pesticide intelligence system.

In 1965 we are requesting an increase of 24 positions and $427,000 for our basic environmental health sciences research in toxicology, pharmacology, and physiology and for our applied mathematics and statistics program. In 1964 we are recruiting a nucleus staff to plan and initiate these activities.

The budget also includes an increase of $1,839,000 for our research grants program which was initiated in 1964 to support basic interdisciplinary research bearing on the relationship of man to his environment. Also, an additional $1,343,000 is requested to support additional training grant projects in this field where the new types of scientific staff needed are in critically short supply.

In 1965 the activities of the Arctic Health Research Center which is funded in this appropriation will continue at essentially the same level. The activities of this Center are concerned with the health problems which relate to living and working in the Alaskan environment, and to research on unique situations where the findings may be important to health problems in general. We feel that the Center is a vital force in the future of Alaska.

Mr. Chairman, I shall be glad to answer any questions the committee may have.

Mr. Fogarty. Thank you, Doctor.

Requested Supplemental Appropriation for 1964

The 1964 appropriation is $4,224,000 and there is a request for a supplemental appropriation of $1,200,000. The request for 1965 is $10,890,000. If you get the supplemental, the 1965 budget is an increase of $5,466,000 and 85 positions. Is that it?

Dr. Anderson. $5,334,524 if you also take comparative transfers into account.

PESTICIDE PROGRAM

Mr. Fogarty. All right. The supplemental is just for work in the fields of pesticides, is that right?

Dr. Anderson. Yes, sir.

Mr. Fogarty. Now, this breaks down into three parts: community studies, occupational studies, and toxicology studies. Will you tell us what is planned under each?

Dr. Anderson. Yes, sir. This program is in relationship to the Presidential report on the use of pesticides, which I have here in case you would like to look at it or refer to it. The emphasis in this report is on the things that might be done relating to control of the pesticides; the uses of pesticides; the kinds of pesticides that are used to accomplish certain things. If we want to control something, we want to control it because it has bad or unwanted effects, so one of the first things that we must do is study the effects that pesticides have upon man.

This can be done through the occupational studies that we are requesting; namely, by the study of groups who are exposed to high levels of pesticides. We can determine how these exposures affect man. So, we must actually know which and what levels of pesticides are getting into the bodies of people. In order to do that, we must actually measure certain body fluids, body fats, body organs, body enzymes—to see what pesticides are actually getting into man. Unless we know such exposures, we can hardly relate the effects we may find in animals or highly exposed individuals to the general population.

We also need to know the avenues through which man is exposed. What is the relative importance of pesticides that might be found in food, as compared to pesticides found in the air or water or in the clothing that we wear or in the grass that we walk on, or play on as children do, or in households where pesticides are very commonly used.

So we need to understand the avenues of exposure, too. In order to make this understandable, we actually have to measure the quantities of the pesticides that are present in these various environmental media and determine which ones are the ones that are important from the standpoint of getting pesticides into people. Then from the standpoint of working toward a control system, we need to know what are the uses of pesticides in the community which give man an exposure.

In summary, in order to work toward a control system, we need toxicological studies in animals and man which will give us clues as to what the consequences of pesticides found in people's bodies might be; we need studies of people exposed by occupation to watch for the earliest signs of consequence in man; and we need community studies to find out what pesticides the general population in this country is actually getting. These three activities are needed in order to work out a good control system.

RESEARCH CONTRACTS

Mr. FOGARTY. $800,000 of this request is for research contracts. Why couldn't this be done just as well through grants?

Dr. ANDERSON. The plan for the six community studies which is the $800,000 item in the supplemental, envisions getting researchers in universities or health departments to engage in identical or at least similar protocols in their communities so that information, let's say, from the group working in California, can be related to that of groups working in Missouri, south Texas, Louisiana, Florida, or in New Jersey.

Under a contract, we would develop with these groups an understanding of the program in which each would be contributing to a body of information that would give us a national picture of the use of pesticides. To do this, we think the contract mechanism is more appropriate than is the grant mechanism.

Mr. FOGARTY. Is this unusual in the Public Health Service? I am just trying to think of similar problems that we have that are not handled by contract.

Dr. ANDERSON. Well, there is one thing further to mention. That is that we plan to use the contractors as our program planning and reviewing group. In other words, each of these six directors of these community studies will be in our planning and reviewing body. The mechanism is not an unusual one. I think in a way it is quite similar to some of the things we have done in other studies.

For example, in the prophylaxis study of tuberculosis, there are definite fixed arrangements that have been made with communities. I believe the cancer chemotheraphy trials program is handled on a contractual basis. Whenever you know exactly what it is that you want to get tested, the contractual mechanism, I think, is a good one.

Dr. TERRY. Mr. Fogarty, I think those parallelisms Dr. Anderson has mentioned are quite appropriate. I think the simplest way that I could express our concept of the difference between a contract and a grant is, for instance, in relation to a grant, a scientist or some type of investigator, has something that he wishes to do, and he needs support for it. He has a general plan in mind, and he presents his plan and protocol for doing this, and requests a grant to help him do this.

On the other hand, there are very specific things that we need. We need a thousand animals tested against a chemotherapeutic agent for cancer, or we need some other very specific information like that, where we need to specify exactly what we need; what we want; and in that way, I think that the contractual mechanism is a more satisfactory mechanism for him.

Mr. FOGARTY. I just wanted to get an explanation. I think that is reasonable.

You did not do too badly on your budget; did you?

Dr. ANDERSON. We were pleased with the increases we have.

Mr. FOGARTY. The Department allowed you what you asked for.

EFFECT OF DELAY IN GETTING SUPPLEMENTAL

Now, how would your fund requirements be changed if there is a delay in your getting the supplemental? We don't know what is going to happen in the Senate now, with civil rights coming up soon. We expect to get this bill through the House on the 14th of April, but it might be considerably later before it is enacted.

Dr. ANDERSON. I would be considerably concerned if there were no action on funding this supplemental because we are about to go into another growing season; another summer in which pesticides will again be used.

Mr. FOGARTY. But, at best, it will be about the first of May, the way things are going now.

Dr. ANDERSON. Well, we have had discussions with a number of communities, in which we have been preparing them for the possibility that there might be funds to fund community studies, so they have been developing their ideas, and are more or less on a standby basis.

In answer to your question, the funds in the $1,200,000 supplemental provide for 25 positions on which we had figured a lapse calculated on the basis that these people would be entering on duty February 1—this February. Since that, obviously, is impossible, there would be savings in the personal services part of the request.

Mr. BERSANO. The savings would be $52,000 in personal services, assuming May 1 enactment.

Mr FOGARTY. Just in dollars, but not in personnel? The same number of personnel?

Mr. BERSANO. The same number of personnel.

Mr. FOGARTY. All right. How would it affect your 1965 budget if you do not get a supplemental?

Dr. ANDERSON. If we do not get the 1964 supplemental, but we got the 1965 request, as we have presented it here, it would again mean savings in the personal services and contractual services part of the account; assuming that the funds would be released by the Bureau of the Budget in the fall, it would mean a reduction in the 1965 request of $120,000.

Mr. FOGARTY. We have high hopes that you will get the money quicker this year.

Dr. ANDERSON. We would like very much to get these community studies going before this summer is too far along.

RESEARCH GRANTS

Mr. FOGARTY. Your largest increase for 1965 is $1,839,000 for research grants. This program was just started this year, wasn't it?

Dr. ANDERSON. Yes, sir; 1964 was the first year of this program.

Mr. FOGARTY. How are you doing?

Dr. ANDERSON. There have been 36 grant requests that have come in to us and have been approved. We have funded 31 of those in the amount of our appropriation, $1,542,000. The universities and the research institutions have responded to the availability of support for research upon the environment and its relationship to the health of man.

Mr. FOGARTY. Can you give us a couple of examples that we can use?

Dr. ANDERSON. Yes. You will recall that last year, in presenting this appropriation for the first time, we talked about the need for developing new ways of determining whether chemicals and drugs may be injurious to the health of man. We were talking about, at that time, the possibility of using the tissue cell culture system, in which the tissue cells that were produced by the culture, were normal cells, and not the aberrant type of cells that are usually found in tissue cell cultures. We wanted normal cells, because they would be normal in function, normal in appearance, similar to those that might be found in the body of people. This project is funded this year out of a research grant covered here.

Another grant is going to a university for the support of studies of the chemicals that are found in the environment and their possible relationship to the health of man through the classical kinds of toxicological assessment.

Mr. FOGARTY. You can expand this in the record. Give us three or four examples.

(The requested information follows:)

ADDITIONAL EXAMPLES OF RESEARCH GRANTS AWARDED FROM ENVIRONMENTAL HEALTH SCIENCES FUNDS

Research in environmental cancer

The New York University Medical School has been awarded a grant supported jointly by Environmental Health Sciences and the National Cancer Institute to study the effects of chemical contaminants present in the environment either naturally or as additives and either alone or in combination with other agents such as viruses and cocarcinogens. The research will involve long-term studies including basic studies at the cellular level, studies of metabolic patterns, and epidemiological investigations involving environmental components such as air, water, food, and clothing. Out of this research it is hoped will be developed better methodology to help evaluate the long-range chronic effects of chemical contaminants and to improve the prediction of physiological response to such contaminants.

Microbiological aspects of environment—Growth in mixed cultures of microorganisms

We tend to think of environmental health only in terms of chemical and physical forces in the environment. Actually, microbiological aspects of the environment are extremely important to health and we must continue to study them. Most microbiological studies have been conducted under the very artificial situations of a pure culture. Virginia Polytechnic Institute has initiated a research project designed to improve techniques of counting and studying growth characteristics of mixed cultures such as are actually encountered in nature. This includes effects of such interactions as antibiosis, symbiosis, synergism, and commensalism and the effects of environmental factors, such as oxygen tension, temperature, etc., on these interactions.

New approaches to subliminal chemical carcinogenesis

The increasing awareness of the possible significance of pesticides in the environment has prompted research at the University of Miami aimed at a long-term evaluation of the effects of pesticides on biological systems. Long-term, subtle, cumulative effects of pesticides in humans are essentially unknown. These studies are concerned with developing chemical and bioassay methods for the determination of pesticides in human and animal tissue, understanding the chemical fate of pesticides through enzyme action, assessing the metabolic changes induced by pesticide presence, revealing synergistic or antagonistic effects of a combination of pesticide compounds in biological systems, investigating the effects of pesticide contamination on mammalian reproduction and lactation, the role of age and sex on the acute and subacute toxicity of pesticides, and in vitro studies of nerve growth and structure in the presence of pesticides.

Initial efforts are being devoted to study of the organo-phosphorus class of pesticide compounds in embryonic chick hearts and protozoan cilia and flagella. These biological systems are both highly sensitive to pesticide chemicals.

Mr. Fogarty. You say you plan to fund 31 projects this year. How many approvable applications do you expect?

Dr. Anderson. We expect, in 1964, 36 approved applications.

Mr. Fogarty. Most of this increase in 1965 is continuing projects that were started this year, isn't it? You expect to fund how many new projects?

Dr. Anderson. Thirty-seven new projects.

Mr. Fogarty. Or six more than this year?

Dr. Anderson. Yes, sir.

Mr. Fogarty. It is moving fairly fast, isn't it?

Dr. Anderson. Well, it is doubling.

PESTICIDE RESEARCH AND INVESTIGATION

Mr. Fogarty. The next largest increase is $1,637,000 for pesticide research and investigations. How much in total is in your 1965 budget for this work?

Mr. Bersano. Eighty-one positions and $2,844,000.

Mr. Fogarty. This is a fairly sizable increase. Tell us the need for it especially in view of the rather substantial supplemental request in the same area.

Dr. Anderson. Well, the two requests are integrally related, providing for the kinds of studies that were called for in the recommendations of the President's Science Advisory Committee to the President released last May. They relate to responsibilities of the Public Health Service in HEW that are highlighted in this report, calling for more information.

Mr. Fogarty. Was this a unanimous report?

Dr. Anderson. So far as I know, by the committee, it was.

Mr. Fogarty. Have any groups or organizations been critical, that you know of?

Dr. Anderson. With certain sections of the report; yes. But I think generally, the broad-scale recommendations that are in the back of the report have been generally accepted, but some of these statements——

Mr. Fogarty. Farm organizations?

Dr. Anderson. Yes; and people who have to use pesticides for various purposes. They have felt that possibly the benefits of pesticides were not sufficiently taken into account in some of the conclusions. The program presented here, Mr. Chairman, would expand the three areas of studies in 1965 that we hope to initiate with the supplemental in 1964; to increase our toxicological assessment of pesticides, both pesticides individually and pesticides in combination. For example, one of the toxicologists with whom we are in touch, desires very much to know what the possible consequences of pesticide exposures might be to people who are taking various kinds of drugs or who are alcoholics; there may be some multiplication factor or some kind of an increased hazard when two or more stresses are placed upon the individual.

The occupational group is where we expect we would be most likely to find evidence of untoward effects. We want to increase the number of people that we would be observing in those studies. It is going to take a large number of people, because when we start talking about the chronic effects of ordinary pesticide exposures, the probability of those occurring are not nearly as frequent as the acute exposures or poisonings.

In addition, in connection with the community studies, which will endeavor to understand pesticides as a total system affecting people within a community, we would want to double the number of communities to 12, to give us a good national picture of pesticides as they relate to the health of man.

PESTICIDE ACTIVITIES OF FOOD AND DRUG ADMINISTRATION AND COMMUNICABLE DISEASE CENTER

Mr. FOGARTY. What is the difference between the work the Food and Drug Administration and the Communicable Disease Center do in this field, and your work?

Dr. ANDERSON. First of all, the Food and Drug Administration has very definite regulatory responsibilities which require them to set the tolerances for pesticides that might be found in foods and relate to the seizure of foods in interstate commerce. They have to do toxicological work in relationship to the setting of those tolerances and we have to do toxicological work, too, in elaboration of some of the toxicological work that they do, but relating to our specific responsibilities.

The Communicable Disease Center initially started this activity as far as the Public Health Service was concerned, in pesticides necessary for the control of malaria in the United States. Some of the first studies that were done, as a matter of fact, in pesticides and their relationship to the health of man, their effect upon water pollution, ground pollution, pollution of the air, were done at the Communicable Disease Center when they were involved in a large scale program using DDT in the control of malaria.

Now, as the Public Health Service has moved onto emphasize the environmental influences that affect man, we have been focusing the programs that relate to the environment and its effect upon the health of man and to the control of environment in the environmental health part of the Bureau of State Services. We would, in this program, hope to use information produced by other parts of the Public Health Service, as well as the Food and Drug Administration. As a matter of fact, in connection with the monitoring of the environment, the Public Health Service, the Food and Drug Administration, the Fish and Wildlife Service, and the Department of Agriculture are all cooperating, to set up a monitoring program which will use information obtained by each of them, and will make it available to all agencies through this pesticide intelligence system that I referred to in my statement.

FEDERAL PEST CONTROL REVIEW BOARD

Mr. FOGARTY. What is the Federal Pest Control Review Board and the Working Subcommittee on Pesticide Monitoring?

Dr. ANDERSON. The Subcommittee on Monitoring is the group that I just referred to and was set up by the Federal Pest Control Review

Board to meet one of the recommendations of the use of pesticides report.

The Federal Pest Control Review Board was established almost 3 years ago by the Secretaries of four Departments: The Department of Agriculture; the Department of Health, Education, and Welfare; the Department of the Interior, and the Department of Defense.

The purpose of the Federal Pest Control Review Board which antedated the book, "Silent Spring", by Rachel Carson, was to review the operational programs of various governmental agencies in which pesticides were used by these governmental departments to control pests and diseases, to make certain that the programs were conducted with the greatest safeguards that could be put into them and yet have the objective of the program accomplished.

The Board began meeting in the early fall of 1962 or 1961.

Dr. **Terry.** 1961.

Dr. **Anderson.** Since that time, we have held almost 50 meetings in which we have been reviewing various governmental programs and modifying them to meet concerns of the Food and Drug Administration, if they are worried about the contamination of foods; or to meet the concerns of the Public Health Service, if we think—while the food might not be involved—there is water pollution or air pollution or soil pollution which might result in hazards for man; to meet the concerns of the Fish and Wildlife Service if they are concerned about possible damaging effects upon fish life. From the standpoint of the Public Health Service, we have a concern too over the quality of milk and the quality of shellfish so that we review these programs from these standpoints.

This mechanism, I think, is a good one from the standpoint of the Federal programs which use pesticides but we are constantly reminded that Federal agencies are involved in programs which distribute and use less than 5 percent of the pesticides that are used in the United States; the other 95 percent is used by States, local communities, and by individuals.

In one of the communities in which we have been working, we find that by far the largest user of pesticides, in terms of quantity in that community, is the individual homeowner in connection with his house and his lawn; if he does not use pesticides in his lawn, he doesn't have a lawn. The chinch bug eats the roots off the grass that grows in that community. Home use is the biggest use of pesticides in this community of a million people.

TRAINING GRANTS, FISCAL YEAR 1965

Mr. **Fogarty.** The other large increase is $1,343,000 for training grants. Tell us why you need this increase, please.

Dr. **Anderson.** The report of the President's Science Advisory Committee on Manpower Needs stated that "Our Nation's transition to a more technologically dependent urban society intensifies social problems in the conservation of natural resources, pollution of the environment, transportation, and urban planning. Scientists and engineers are needed to develop solutions to these problems, and technically trained persons will be needed in local, State, and Federal governments, to apply these solutions intelligently. The Gross committee, that reviewed environmental health needs, called attention to the fact that there was no concerted training program producing people for environmental health programs which would to any extent meet the needs for industry, for State, and for local agencies.

This particular training program is to train people who will be broadly based and be able to do research with regard to general effects on environmental hazards upon the health of man or general principles involved in the control of health hazards.

The number of trainees that we are funding in the 1964 program approximates 210. In terms of a need that has been stated by some to be as high as 20,000 by 1970, this is a small increment.

In 1965, we will more than double the number of research trainees that will be supported by this appropriation. This is a research training grant program.

RESEARCH CONTRACTS

Mr. Fogarty. You have an increase of over $1 million again in 1965 in research contracts. Are these more of the type you described in connection with the supplemental?

Dr. Anderson. For the most part, yes.

Mr. Bersano. There is $971,000 of that amount for the pesticide studies that were discussed earlier.

ARCTIC HEALTH RESEARCH CENTER

Mr. Fogarty. Do you have any progress to report as a result of the past year's work of the Arctic Health Research Center?

Dr. Anderson. Yes, sir. To me, one of the very interesting things about the Arctic Health Research Center's program of this past year, was an evaluation of measles vaccine and the control of a threatened measles epidemic in Alaska.

In Alaska, measles is a greatly feared disease by the native population because they have not been exposed to it, and so when they get measles it is a serious thing. The lack of movements of population through transportation, means they do not get exposed to communicable diseases like we do in the other States. Consequently, measles has been a deadly epidemic disease for them.

We have vaccinated a group of Eskimos in Alaska with the measles vaccine and are going to watch to see how long this immunity lasts. This is a good place for this research because the chances are there will be no natural exposures coming in to keep the immunity up. This will probably be the situation that will some day exist in the United States; namely, that we will have a population that does not have much natural exposure, but will be protected through the device of vaccination. It is going to be extremely important to know how long this vaccination immunity lasts. That is an example of one of the studies that we have under way.

LOCATION OF ENVIRONMENTAL HEALTH PERSONNEL

Mr. Fogarty. In how many different locations in the Washington area are the environmental health people now working?

Mr. Bersano. About six different areas.

Mr. Fogarty. All right. Put them in the record.

(The locations are as follows:)

LOCATION OF ENVIRONMENTAL HEALTH PERSONNEL, WASHINGTON, D.C., METROPOLITAN AREA

South Health, Education, and Welfare Building, Washington, D.C.
Temporary R Building, Washington, D.C.
Woodmont Building, Bethesda, Md.
1901 Chapman Avenue, Rockville, Md.
1820 Chapman Avenue, Rockville, Md.
300 North Stonestreet Avenue, Rockville, Md.

Mr. FOGARTY. Thank you very much, gentlemen.

JUSTIFICATION MATERIAL

(The justification material submitted to the committee follows:)

(NOTE: Justification material submitted in connection with the request for a supplemental appropriation for 1964 appears beginning at p. 669.)

ENVIRONMENTAL HEALTH SCIENCES

Amounts available for obligation

	1964	1965
Appropriation	$4, 224, 000	$10, 890, 000
Transfer to "Operating expenses, Public Buildings Service," General Services Administration (rent)	−3, 524	
Proposed transfer from "National Heart Institute" due to Uniformed Services Pay Act of 1963	15, 000	
Comparative transfers from other accounts	120, 000	
Pending program supplemental	1, 200, 000	
Total	5, 555, 476	10, 890, 000

Obligations by activity

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Grants		$3, 127, 000		$6, 309, 000		+$3, 182, 000
Research		1, 608, 000		3, 447, 000		+1, 839, 000
Training		1, 519, 000		2, 862, 000		+1, 343, 000
Arctic Health Research Center	65	775, 476	65	783, 000		+7, 524
Research, training, and technical services	47	1, 653, 000	132	3, 798, 000	+85	+2, 145, 000
Research	35	1, 473, 000	115	3, 544, 000	+80	+2, 071, 000
Review and approval of grants	12	180, 000	17	254, 000	+5	+74, 000
Total obligations	112	5, 555, 476	197	10, 890, 000	+85	+5, 334, 524

Obligations by object

	1964 estimate	1965 estimate	Increase or decrease
Total number of permanent positions	112	197	+85
Full-time equivalent of other positions	1	2	+1
Average number of all employees	85	148	+63
Number of employees at end of year:			
Permanent positions	112	195	+83
Other	2	5	+3
11 Personnel compensation:			
Permanent positions	$637,000	$1,132,000	+$495,000
Positions other than permanent	5,000	13,000	+8,000
Other personnel compensation	99,000	100,000	+1,000
Total personnel compensation	741,000	1,245,000	+504,000
12 Personnel benefits	72,000	132,000	+60,000
21 Travel and transportation of persons	79,000	140,000	+61,000
22 Transportation of things	22,000	44,000	+22,000
23 Rent, communications, and utilities	81,376	208,000	+126,624
24 Printing and reproduction	13,000	24,000	+11,000
25 Other services	78,000	92,000	+14,000
Research contracts	903,000	1,907,000	+1,004,000
Services performed by other agencies	83,000	45,000	−38,000
Payment to:			
Bureau of State Services management fund	26,100	86,000	+59,900
National Institutes of Health management fund		46,000	+46,000
26 Supplies and materials	93,000	153,000	+60,000
31 Equipment	237,000	459,000	+222,000
41 Grants, subsidies, and contributions	3,127,000	6,309,000	+3,182,000
Total obligations by object	5,555,476	10,890,000	+5,334,524

Summary of changes

1964 enacted appropriation	$4,224,000
Transfer to "Operating expenses, Public Buildings Service," General Services Administration (rent)	−3,524
Proposed transfer from "National Heart Institute" due to Uniformed Services Pay Act of 1963	15,000
Comparative transfers	120,000
Pending supplemental for pesticide studies	1,200,000
Total estimated obligations, 1964	5,555,476
1965 estimated obligations	10,890,000
Total change	+5,334,524

INCREASES

Built in:		
Annualization of 38 new positions authorized in 1964 (research, training, and technical services)		72,200
Annualization of step 2 of the civil service pay increase:		
Arctic Health Research Center	$5,000	
Research, training, and technical services	12,200	
		17,200
Annualization of cost of Uniformed Services Pay Act of 1963:		
Arctic Health Research Center	6,000	
Research, training, and technical services	1,500	
		7,500
Subtotal, built-in increases		96,900

Program increases:	
Research grants	1, 839, 000
Training grants	1, 343, 000
Arctic Health Research Center	524
Toxicology, pharmacology, and physiology (20 positions)	325, 500
Applied mathematics and statistics (4 positions)	121, 000
Pesticide research and investigations (56 positions)	1, 637, 000
Review and approval of grants (5 positions)	72, 100
Subtotal, program increases	5, 338, 124
Gross increases	5, 435, 024
DECREASES	
Nonrecurring equipment related to new program:	
Arctic Health Research Center	—3, 000
Research, training, and technical services	—95, 000
Total	—98, 000
1 less day of pay in 1965 (262 days in 1964; 261 days in 1965):	
Arctic Health Research Center	—1, 000
Research, training, and technical services	—1, 500
Total	—2, 500
Subtotal, decreases	100, 500
Total net change requested	5, 334, 524

EXPLANATION OF CHANGES

Research grants

An increase of $1,839,000 is requested to finance the continuation of 28 grants, the award of 37 new grants, and increased indirect costs. Total funds of $3,447,000 will support 65 projects.

Training grants

An increase of $1,343,000 is requested to finance the continuation of 35 grants and the award of 30 new grants to universities. Total funds of $2,862,000 will support 65 projects.

Arctic Health Research Center

This activity will continue at the 1964 level. There is no increase in positions and the increase of $524 is for mandatory adjustments.

Research

Toxicology, pharmacology, and physiology.—An increase of 20 positions and $325,500 is requested to expand the nucleus planning group established in 1964 and to initiate laboratory studies in environmental toxicology. Primary areas of emphasis will include (1) the development of a laboratory capability in toxicological and pharmacological techniques for the measurement and analysis of chemical agents in relation to acute and chronic toxicity in laboratory animals and (2) basic research studies in the inner environment of the cell and pathological changes in the cell caused by the application of toxic chemicals, harmful physical agents, and various stress factors.

Applied mathematics and statistics.—An increase of four positions and $121,000 is requested to expand the application of mathematical and statistical methods to biomedical phenomena: to develop the mathematical models needed to predict the quantitative effects of potentially toxic substances on cell physiology; and to provide statistical guidance in the design and analysis of epidemiologic studies, including the application of computer technology to these studies.

Pesticide research and investigations: Community pesticide studies.—An increase of 11 positions and $865,000 is requested to expand the number of studies from 6 to 12 communities. These studies are conducted to determine the amounts of pesticides present in the environment and to trace the course of pesticide residues through the environment to man. The communities selected represent varying climatic situations and pesticide usage. An estimated $768,000 of the increase will be used for contractual agreements with universities and State and local health agencies.

Studies in the occupational environment (pesticides).—An increase of 10 positions and $151,000 is requested to expand studies on the effects of pesticides on the health of selected occupational groups that encounter more intensive levels of exposure during the manufacturing, processing, distribution, and application of pesticides. An estimated $67,000 of the increase will be used for contractual agreements with universities and State and local health agencies.

Pesticide intellingence system.—An increase of 15 positions and $240,000 is requested to initiate a comprehensive data-gathering program to collate, summarize, interpret, and publish data on pesticides in man and his environment. This unit will analyze the data gathered by the programs in the Public Health Service, other Federal agencies, and information gathered by State, local, and other cooperating organizations.

Toxicology studies (pesticides).—An increase of 20 positions and $381,000 is requested to accelerate intramural research and to establish a pesticide toxicology laboratory in conjunction with our environmental health sciences research program. Pesticide research will involve experimental studies with test animals, tissue culture research, and metabolic studies using radioactive tracers which will provide leads on deviations from normal metabolism, and studies that will attempt to demonstrate the influence of pesticides on the alteration of the genetic material of the cell.

Review and approval of grants

An increase of five positions and $72,100 is requested to provide adequate technical staff services for the environmental health sciences extramural programs in research and training grants.

Decreases

The $100,500 represents nonrecurring costs of equipment authorized in 1964 in the amount of $98,000, and savings of $2,500 due to 1 less day of pay in 1965.

Explanation of transfers

	1964 estimate	1965 estimate	Purpose
Comparative transfer from:			
"Air pollution"	$30,000	------------	To transfer funds for the grant review and approval activity previously budgeted in the Bureau of State Services management fund.
"Environmental engineering and sanitation."	14,000	------------	Do.
"Occupational health"	4,000	------------	Do.
"Radiological health"	24,000	------------	Do.
"Water supply and water pollution control."	46,000	------------	Do.
"Salaries and expenses, Office of the Surgeon General."	2,000	------------	For decentralization of costs for accounting services provided in the Washington area.
Transfer to: "Operating expenses, Public Buidings Service," General Services Administration.	3,524	------------	To transfer to General Services Administration funds for leased space.
Transfer from: "National Heart Institute."	15,000	------------	Proposed transfer of funds to cover increased pay costs due to Public Law 88-132.

Environmental health sciences

	Budget estimate to Congress	House allowance	Senate allowance	Appropriation
1964	$4,246,000	$4,224,000	$4,224,000	$4,224,000
1964 proposed supplemental	1,200,000			
1965	10,890,000			

Research grants

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Number	Amount	Number	Amount	Number	Amount
1. Noncompeting continuations			28	$1,394,000	+28	+$1,394,000
2. Wholly new grants	31	$1,542,000	37	1,863,000	+6	+321,000
3. Additional indirect costs:						
(*a*) To 20 percent [1]		66,000		142,000		+76,000
(*b*) To 25 percent [2]				48,000		+48,000
Total, research grants	31	1,608,000	65	3,447,000	+34	+1,839,000

[1] Relates to all grants approved for support in these years.

[2] Relates to proposed increase in indirect cost rate to 25 percent for grants awarded on or after Jan. 1, 1965.

This program, initiated in 1964 supports (1) noncategorical research to develop basic, fundamental knowledge applicable to the entire field of environmental health; (2) multicategorical research that is of common interest to all environmental health programs; and (3) research on emerging, borderline environmental problems that are not yet clearly delineated or recognized as public health hazards.

Noncategorical studies

Research is supported to assess the biological effect of exposure to environmental contaminants regardless of whether the media is air or water pollution, food contamination, occupational exposure, or a combination of these sources. Primary emphasis is given to the fields of toxicology, biochemistry, pharmacology, genetics, and physiology. One study underway involves the analysis of volatile compounds in biological fluids (cerebral, spinal, abdominal) with the purpose of relating the presence of these compounds to disease conditions. The presence of such compounds in biological fluids may be associated with environmental stress factors acting on the human organism. Another study concerns the growth of tumorous cells in a plant resulting from contact with a toxic chemical secreted by insects; the purpose is to derive the relationship between chemicals which cause tumorous cell growth in plants and those that produce similar effects in mammals, including man.

Multicategorical studies

Support is also given to comprehensive investigations in areas of interest to more than one categorical program. For example, a current study analyzes the mechanisms through which society may gather the information necessary to make cooperative decisions involving several environmental health problems; this study is important because all segments of society must join together in seeking mutually acceptable ways to control or eliminate environmental pollution. Another current project is a study in the administration of environmental sanitation programs by local health departments; since the success of these programs depends in large measure upon how well they are explained to and accepted by the public, the study seeks to determine the most effective administrative procedures for securing public acceptance of environmental health programs.

Emerging problems in environmental health

A few grants are also awarded to support investigations in the frontier areas of science of environmental problems which have not yet been fully demonstrated to affect public health. Present environmental health problems have been generally recognized as such only very slowly. It is important therefore that the Public Health Service support a limited but continuing effort in borderline or potentially significant areas of interest so that we may be better prepared to react to emerging health problems in the environment of tomorrow.

Modern man is rapidly moving out into extreme environments for military, exploratory, and even economic reasons. We have already entered the Arctic and Antarctic, outer space, and the depth of the oceans. Continuing exploration in these areas suggests the desirability of learning to live safely for longer periods of time in these extreme environments. One problem in this connection is that such environments tend to dehydrate the body, and this process can be rapidly fatal. A current project seeks to derive the techniques of successful physiological adaptation to an extreme environment by investigating the body mechanisms which have enabled birds of the desert to conserve moisture through natural adaptation to a dry environment. Another project involves the growth in a culture medium of two or more types of bacteria that are subjected to varying physical and chemical environmental factors in order to determine the interaction phenomena between micro-organisms; such findings may indicate the adverse effects of new and changing environmental insults on the normal bacterial-flora existing in man.

The increase of $1,839,000 to a fund level of $3,447,000 will provide for a total of 65 grants, including 28 continuations and 37 new awards.

Training grants

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Number	Amount	Number	Amount	Number	Amount
Continuation requirements	32	$1,329,000	35	$1,519,000	+3	+$190,000
New grants	3	190,000	30	1,343,000	+27	+1,153,000
Total, training grants	35	1,519,000	65	2,862,000	+30	+1,343,000

This program sponsors the development of skilled scientific manpower through the award of research training grants to institutions. The spectrum of intellectual resources from which environmental health programs must draw is extremely broad and extends well beyond that which has been characteristic in the past experience of the Public Health Service. The ever-increasing array and complexity of environmental health problems compels an integrated research approach that utilizes personnel from many disciplines—biologists, physiologists, toxicologists, pharmacologists, engineers, social scientists, ecologists, mathematicians, systems analysts, and instrumentation specialists.

Since professional skills in any one discipline attain highest effectiveness through interdisciplinary cross-fertilization, priority in training grant awards is given to colleges and universities that have strong interdepartmental graduate training programs. The placement of grants that are more comprehensive in scope correlates with integrated research and holds great promise for the development of a scientific manpower pool that will have the requisite depth, cross-fertilization and long-range community of purpose that is conductive to the solution of environmental health problems.

An accelerated training program is mandatory now if we are to keep pace with an exploding technology. As expressed by the President's Science Advisory Committee in a 1962 report on manpower needs, "Our Nation's transition to a more technologically dependent and urban society intensifies social problems in conservation of natural resources, pollution of the environment, transportation, and urban planning. Scientists and engineers are needed to develop solutions to these problems, and technically trained persons will be needed in local, State, and Federal governments to apply these solutions intelligently." The critical nature of the problem was stressed in a report of the Committee on Environmental Health Problems (1962), chaired by Dr. Paul M. Gross. The

Committee recommended broader based support for comprehensive training of scientific manpower in environmental health. This program constitutes the implementation of that recommendation and it has primary responsibility for developing the scientific manpower required to attain national objectives in the prevention and control of environmental health hazards.

Since almost all the grants supported in 1964 were continuations, the increase of $1,343,000 will provide a significant expansion in the award of new grants from 3 to 30 and an increase in the number of students trained from 208 to 425.

Arctic Health Research Center

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	65	$545,000	65	$576,000	--------	+$31,000
Other expenses	--------	230,476	--------	207,000	--------	−23,476
Total, Arctic Health Research Center	65	775,476	65	783,000	--------	+7,524

The Arctic Health Research Center serves the scientific and health community of Alaska by conducting medical, biological, and epidemiological studies in health problems peculiar to the arctic environment.

Medical and biological studies will be continued at the 1964 level in establishing the relationships of heredity and nutrition to various diseases and the role insects play in disease transmission.

The dietary patterns of native populations have been surveyed and detailed descriptive information is available. These past studies have been productive in linking native diets and nutritional deficiencies to certain metabolic diseases, such as methemoglobinemia, a disease which reduces the oxygen carriers in the blood to below-normal levels. Continued research along this line will include studies of the relationship of diet and hereditary factors to diabetes. Nutritional and bioclinical studies will be undertaken to determine how a diet excessively high or low in carbohydrate content may be a factor in heart and vascular diseases, hypertension, cancer, and dental diseases.

Considerable basic entomologic knowledge has been acquired on the biting insects of Alaska—insects which represent potential disease vectors. Research efforts now will be concentrated on tick-borne diseases and potential vectors of the Arbor virus group, mainly the North American encephalitides. Survey methods will be used to search for evidence of infection in man, animals, and insects.

Environmental studies will be continued on problems of water supply and waste disposal; institutional and individual household environmental sanitation; the testing and demonstration of liner materials used for seepage control in porous Alaska soil; pilot plant experiments to determine methods of improving soil conditions for more efficient absorption of sewage; the effects of preliminary septic tank treatment on leaching pit operations; and improved operating criteria for oxidation ponds.

Research, training, and technical services

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	47	$268,000	132	$801,000	+85	+$533,000
Other expenses	--------	1,385,000	--------	2,997,000	--------	+1,612,000
Total	47	1,653,000	132	3,798,000	+85	+2,145,000

Summary of program

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Research	35	$1,473,000	115	$3,544,000	+80	+$2,071,000
Toxicology, pharmacology, and physiology	8	244,000	28	550,000	+20	+306,000
Applied mathematics and statistics	2	29,000	6	150,000	+4	+121,000
Pesticide research and investigations	25	1,200,000	81	2,844,000	+56	+1,644,000
Review and approval of grants	12	180,000	17	254,000	+5	+74,000
Total	47	1,653,000	132	3,798,000	+85	+2,145,000

Toxicology, pharmacology, and physiology

The rapid pace of technological development during the past two decades has been aptly called a "second industrial revolution" and this designation is particularly applicable to the chemical industry. A prodigious volume of new chemicals and related substances is inundating our environment at a rate that greatly exceeds the rate at which their toxicity can be investigated. Many of these chemicals have acute biological effects, including severe illness, disability, and death. Some become harmful at a critical stage that follows a period of long-term, gradual action. Others become harmful through the joint or synergistic action of toxins emanating from several environmental sources.

The chronic effects of exposure to many of these chemicals absorbed in minute amounts over long periods of time simply are not known. Under these circumstances, a high priority must be given to toxicological research for at least the next decade, and the Gross committee placed much stress on the need for basic research in biochemistry, physiology, toxicology, and pharmacology. Unless advances in fundamental knowledge are attained in these fields, there can be little progress in the understanding, management, and control of environmental hazards.

Since the present standard procedures for measuring the toxicity of chemicals are costly, time consuming, and require extensive facilities, additional efforts will be applied to develop new, better, and more sensitive approaches to toxicological analysis and measurement. These we expect to develop through basic research into the inner environment of the cell, directing primary efforts at normal cell cultures, with later efforts directed at organized cell systems. The development of a tissue cell culture system will permit continuous, quantitative analysis of the normal metabolic pattern and any alterations of such cells that would be affected through the application of various stress factors—drugs, radiation, carcinogens, pesticides, pyrogens, or physiologic factors.

A nucleus planning group has been formed in 1964. Initial studies will be directed at chemicals commonly found in household use, such as waxes, cleansers, and solvents. The long-range program will encompass the entire array of toxic chemicals and other substances.

An increase of 20 positions and $306,000 is requested for 1965 to establish a laboratory capability in conventional toxicological and pharmacological techniques. At least nine of these positions will be filled in the scientific disciplines of biology, biochemistry, physiology, toxicology, and pharmacology. The major part of the increase for nonpersonnel costs will be used for the procurement of laboratory equipment.

Applied mathematics and statistics

A primary responsibiilty of the Office of Environmental Health Sciences will be to examine the biomedical effects of human exposure to environmental agents from many sources. In recent years we have seen increased application of mathematical and statistical methods to biomedical phenomena. In research on human response to environmental pollution, mathematical models are needed to predict the quantitative effects of potentially toxic substances on cell physiology and on the larger scale respiratory and cardiovascular systems.

In 1964, a research statistician and a statistical assistant will be recruited to plan this program of statistical research and consultative services to environmental health research programs. The major effort to date has been devoted to a compilation of mathematical methods in biophysics useful in biomedical research. In addition, research is planned into the development of statistical methods for estimating dosages resulting from exposures to environmental pollutants. In 1965, four additional positions—a senior-level statistician, a biostatistician, an electronic computer programer, and a statistical clerk—are requested to permit further development of research functions and to provide statistical guidance in planning epidemiologic and laboratory studies and in applying computer technology.

Pesticide research and investigations

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Community pesticide studies	9	$800,000	20	$1,686,000	+11	+$886,000
Studies in the occupational environment	6	200,000	16	340,000	+10	+140,000
Pesticide intelligence system	--------	------------	15	240,000	+15	+240,000
Toxicology studies	10	200,000	30	578,000	+20	+378,000
Total	25	1,200,000	81	2,844,000	+56	+1,644,000

The 1964 supplemental estimate of 25 positions and $1,200,000 now before the Congress includes funds to initiate studies on pesticides in communities in about 6 locations, studies of specific occupational groups experiencing significantly high pesticide exposures, and toxicological studies to investigate the chronic effects of long-term exposure to pesticides in experimental animals.

In 1965 it is proposed to increase this program by $1,644,000 and 56 positions to expand the number and scope of the studies and investigations started in 1964, and to establish a pesticide intelligence system. This latter activity will involve the collation, interpretation, and dissemination of data from all available sources on the levels of pesticides in the environment and in people.

(*a*) *Community pesticide studies*

The 1964 supplemental provides for undertaking studies in six selected communities. These studies will require approximately 3 years to complete. In 1965 we propose to continue these 6 initial studies and initiate 6 new ones, bringing 12 communities into the program by the end of 1965. In successive years additional communities will be added to provide important baseline data by defining the problem of human exposure to pesticides in a wide variety of environments. The communities to be studied will be selected so as to include different geographic areas, different types of pesticide usage, varying rates of exposure, and different methods of application.

In the communities selected we will conduct the following activities: (1) Collect comprehensive data on the concentration of pesticides in various parts of the environment, on histories of complaints by exposed individuals, and on reports of contamination. Laboratory and clinical examinations of people will be made to determine the pesticides and the metabolites of pesticides present in tissues, body fluids, and organs and to find evidence of alterations in body function and structure resulting from pesticides. This would include procedures for identifying and coping with pesticide poisoning incidents. (2) Develop methods, facilities, and skills for conducting routine tests and investigations. This would include the development of competency in analysis for residues of various pesticides in air, water, diet, and other environmental and biological substrates. (3) Develop a continuing local network that will supplement Federal networks monitoring residue levels of pesticides in man and his total environment. (4) Conduct studies on the specific use and dispersal of pesticides in the community. After all of these data are collected, they will be evaluated and correlated with the information that we and others have been accumulating from both laboratory and field studies.

Through these types of community studies, we can assemble comprehensive information on the presence of pesticides in a community, and the level of pesticide residues in the bodies of the people living there. This information can then be related to the information developed from occupational and toxicological studies in such a way that the real hazard of pesticide exposure can be ascertained. Also, the results of these community studies will provide us with facts essential for formulating preventive and control techniques and programs for dealing with the health hazards of pesticides.

These studies will be undertaken by entering into contracts with universities, research institutes, and State and local health agencies. Such contracts will be sought with one of these single agencies for each community study, although the other agencies in the community may also participate. The staff increase of 11 positions will comprise biochemists, epidemiologists, biologists, chemists, and public health specialists who will serve as project officers to assist in developing the protocol for the studies, monitor the studies in progress, and assist in evaluating the results of each community study.

(b) *Studies in the occupational environment*

Studies of occupationally exposed groups are important for several reasons. First they give us the earliest indications of ill effects from exposures and enable us to develop control principles and techniques in the less complicated and more clearly defined workers' environment. Secondly and perhaps of far greater significance in the long run, is that such studies will indicate the possible dangers to the general population from long-term, low-level exposures to pesticides.

The objective of the studies begun in 1964 is to determine the health effects on workers in occupational groups experiencing intense exposure to pesticides. While it is essential to study acute effects of pesticides on workers, of equal or greater importance is the need to determine the effects of continued exposures which do not result in immediate or acute disability to the worker. It is from the latter type of studies that conclusions may be drawn which have application to the general population. Therefore in 1965 we plan to give greater emphasis to studies of occupational groups who experience continued low levels of exposures which are considerably greater that those of the average population, but yet not enough to produce acute manifestations. In addition, we must plan to continue for a number of years to accumulate more data on current exposures of workers in as many varied situations as possible. Such data are indispensable in providing a statistical population of sufficient size from which we can draw conclusions that will be valid and significant.

The examination of workers will involve detailed biochemical studies of pesticide metabolies and early derangement in body metabolism. In this connection it is proposed to initiate research in 1965 to refine techniques for blood and tissue biochemical determinations in order to more effectively make determinations of pesticide residues and pesticide metabolites in body tissues, fluids, and excretion products.

An increase of 10 positions and $140,000 is requested—$67,000 of the increase will be used to support contractual studies in universities; the balance of $73,000 will enable expansion of our intramural research. A special study team will be formed comprising a biochemist, a biometrician, a toxicologist, a physiologist, an epidemiologist, other specialists in occupational medicine, and supporting technical personnel. This study team will conduct studies in industrial environments that specialize in (1) the development and manufacture of new and old pesticide chemicals; (2) the formulation of chemicals into pesticide compounds; and (3) the application of pesticides in fields, forests, and other parts of the environment.

(c) *Pesticide intelligence system*

In its report, "Use of Pesticides," the President's Science Advisory Committee recommended that the Department of Health, Education, and Welfare develop a comprehensive data-gathering program so that the levels of pesticides can be determined in occupational workers, in individuals known to have been repeatedly exposed, and in a sample of the general population. It also recommended that the Department cooperate with other departments to develop a continuing monitoring of residue levels in air, water, soil, foods, man, wildlife, and fish. To implement coordination among Federal agencies, a "Working Subcommittee on Pesticide Monitoring" has been established as a subcommittee to the Federal Pest Control Review Board.

We propose in 1965 to establish a focal point in the Public Health Service for the data-gathering program. Information will be supplied to this unit by the established air, water, and milk networks in our categorical divisions, by the pesticide community and occupational exposure studies, and by other Federal agencies represented on the Monitoring Subcommittee. It will be the responsibility of this unit to collate, summarize, interpret, and publish data on pesticides in man and his environment. Mathematical models of dosage distribution in different population groups and geographical areas will be developed. From these analyses we expect to derive meaningful statistical relationships between exposure and effect that will lead eventually to the development of preventive and control programs.

In 1965. 15 positions and $240,000 is requested to establish a pesticide intelligence system. Such an activity will require professional personnel consisting of chemists, ecologists, mathematicians, and statisticians, supported by other technical and clerical personnel.

(*d*) *Toxicology studies*

More data are urgently needed on the chronic effects on human health of a continuous exposure to minute doses of pesticides. This information can only be developed through a research program of sufficient depth to obtain precise information on the mode of action of pesticides. This research must extend beyond the conventional or classical toxicity studies currently underway in Public Health Service laboratories or elsewhere. Toxicological studies must be initiated which will attempt to demonstrate the influence of pesticides on the alteration of genetic material of the cell (genes and chromosomes which are made up of DNA or deoxyribonucleic acid).

To develop techniques and a meaningful research program in pesticide toxicology will involve application of tissue culture research and metabolic studies using radioactive tracers which will provide leads as to interruption of metabolic pathways suggesting deviation of normal metabolism. These studies are initally designed to assess the effect of one environmental stress of pesticide. Since man in his environment does not encounter one stress, but a spectrum of stresses from such chemicals, the combined or synergistic action of all must be investigated.

Experimental studies with test animals require 2 to 3 years' support to provide data on long-term exposure. A comparable long-term assessment in man might require observations over a considerable span of his life. Toxicity experiments require adequate numbers of animals in test and control groups and numerous permutations in the design to adequately encompass the problem and provide the required answers. The toxicology program is thus the focal point of the biological assessment of pesticide action and requires a spectrum of disciplines, equipment, instrumentation, laboratory, and animal facilities to help provide the solution to this complex biological problem.

In 1964 new pesticide toxicological studies are being initiated utilizing, wherever possible, existing PHS capabilities. In 1965 an increase of 20 positions and $378,000 is requested to continue and expand toxicological studies. This will be accomplished by increasing the research staff and establishing a pesticide toxicology laboratory in conjunction with our environmental health sciences research program. The professional staff will consist mainly of laboratory research scientists. Capability will be required in the areas of toxicology, biochemistry, microbiology, physiology, and pharmacology. Support will be provided by research technicians and clerical personnel.

Review and approval of grants

An increase of five positions and $74,000 is requested for this activity. This would permit an increase in professional and clerical staff to handle the greater workload in processing, analyzing, and managing grants that is anticipated from a doubling of fund availability for research and training grants. The positions requested include an executive secretary and a grants assistant to the Environmental Health Training Committee, a systems analyst for computer programing of the grant administrative process, a grants management specialist to provide professional management of the overall grant program, and a secretary. Implementation of this program includes (1) professional staff guidance and services provided to the Environmental Health Training Committee; (2) administrative and technical assistance to universities and other grantee institutions in the effective handling of their grantee responsibilities; (3) establishment of a systematic program for the communication of scientific information; and (4) development of a sound management audit system to monitor progress and achievement in the research and training grants program.

New positions requested, fiscal year 1965

	Grade	Annual salary
Research, training, and technical services:		
Medical officer	GS-15	$15, 683
2 scientists	GS-15	31, 366
Administrative officer	GS-14	13, 624
Public health program specialist	GS-14	13. 624
Scientist	GS-14	13. 624
Medical officer	GS-13	11, 731
Public health program specialist	GS-13	11, 731
4 scientists	GS-13	46, 924
Statistician	GS-13	11, 731
Engineer	GS-12	9, 984
5 scientists	GS-12	49, 920
Statistician	GS-12	9, 984
6 scientists	GS-11	50, 544
Statistician	GS-11	8, 424
Administrative staff assistant	GS-9	7, 030
Program publication specialist	GS-9	7, 030
2 public health program specialists	GS-9	14, 060
4 research technicians	GS-9	28, 120
2 statisticians	GS-9	14, 060
Administrative staff assistant	GS-7	5, 803
Information specialist assistant	GS-7	5, 803
Public health program specialist	GS-7	5, 803
4 research technicians	GS-7	23, 212
2 statisticians	GS-7	11, 606
Administrative staff assistant	GS-6	5, 242
2 research technicians	GS-6	10, 484
5 clerical assistants	GS-5	23, 505
2 laboratory technicians	GS-5	9 402
2 research technicians	GS-5	9, 402
2 statisticians	GS-5	9. 402
3 clerical assistants	GS-4	12, 666
2 laboratory technicians	GS-4	8, 444
3 clerical assistants	GS-3	11, 670
2 laboratory technicians	GS-3	7, 780
Commissioned officers:		
4 senior grade		32, 880
4 full grade		28, 080
5 senior assistant grade		32, 700
2 assistants		6, 224
Total new positions (85)		629, 302

AIR POLLUTION

WITNESSES

VERNON G. MACKENZIE, CHIEF, DIVISION OF AIR POLLUTION
ROBERT PERMAN, EXECUTIVE OFFICER, DIVISION OF AIR POLLUTION
DR. ROBERT J. ANDERSON, CHIEF, BUREAU OF STATE SERVICES
PETER J. BERSANO, FINANCIAL MANAGEMENT OFFICER FOR ENVIRONMENTAL HEALTH PROGRAMS
DR. LUTHER L. TERRY, SURGEON GENERAL
HARRY L. DORAN, CHIEF FINANCE OFFICER
JAMES M. QUIGLEY, ASSISTANT SECRETARY
LOYAL C. FISHER, DEPUTY COMPTROLLER

Object classification

[In thousands of dollars]

		1963 actual	1964 estimate	1965 estimate
11	Personnel compensation:			
	Permanent positions	2,447	2,985	3,819
	Positions other than permanent	71	66	110
	Other personnel compensation	7	23	17
	Total personnel compensation	2,525	3,074	3,946
12	Personnel benefits	338	379	469
21	Travel and transportation of persons	260	262	340
22	Transportation of things	42	40	63
23	Rent, communications, and utilities	136	148	232
24	Printing and reproduction	112	80	140
25	Other services	216	242	334
	Research contracts	1,449	1,200	1,857
	Services of other agencies	905	1,045	1,400
	Payment to—			
	Bureau of State Services management fund	857	899	918
	National Institutes of Health management fund	37	51	56
26	Supplies and materials	318	300	430
31	Equipment	441	400	642
32	Lands and structures	2	2	2
41	Grants, subsidies, and contributions	3,378	4,851	11,201
	Total obligations	11,016	12,973	22,030

Personnel summary

	1963 actual	1964 estimate	1965 estimate
Total number of permanent positions	407	419	558
Full-time equivalent of other positions	14	14	23
Average number of all employees	373	410	523
Employees in permanent positions, end of year	374	419	542
Employees in other positions, end of year	22	18	23
Average GS grade	7.8	8.1	8.1
Average GS salary	$7,108	$7,748	$7,771

Program and financing

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
Program by activities:			
1. Grants:			
(a) Research	2,925	3,851	4,786
(b) Fellowships	59	127	252
(c) Training	394	873	998
(d) Control programs	--------------	--------------	4,400
(e) Survey and demonstration	--------------	--------------	765
2. Research, training, technical services, and enforcement	6,993	8,122	10,829
Total program costs, funded [1]	10,371	12,973	22,030
Change in selected resources [2]	645	--------------	--------------
Total obligations	11,016	12,973	22,030
Financing:			
Comparative transfers to other accounts, net	16	19	--------------
Unobligated balance lapsing	33	--------------	--------------
New obligational authority	11,065	12,992	22,030
New obligational authority:			
Appropriation	11,069	12,954	22,030
Transferred to "Operating expenses, Public Buildings Service," General Services Administration (76 Stat. 728 and 77 Stat. 436)	−4	−21	--------------
Appropriation (adjusted)	11,065	12,933	22,030
Proposed transfer from "National Heart Institute," due to Uniformed Services Pay Act of 1963	--------------	59	--------------

[1] Includes capital outlay as follows: 1963, $339,000; 1964, $400,000; 1965, $642,000.

[2] Selected resources as of June 30 are as follows: Unpaid undelivered orders, 1962, $409,000 (1963 adjustments, −$61,000); 1963, $993,000; 1964, $993,000; 1965, $993,000.

Proposed for separate transmittal:

AIR POLLUTION

Program and financing

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
Program by activities:			
1. Control programs	--------------	2,000	--------------
2. Research, training, technical services, and enforcement	--------------	200	--------------
Total program costs, funded—obligations	--------------	2,200	--------------
Financing: New obligational authority (proposed supplemental appropriation)	--------------	2,200	--------------

Mr. FOGARTY. Mr. MacKenzie, we will be glad to hear your statement now.

GENERAL STATEMENT

Mr. MACKENZIE. Mr. Chairman and members of the committee, the Clean Air Act which the Congress passed late last year will enable the Department of Health, Education, and Welfare to do more than ever before to help our cities and States come to grips with this Nation's serious air pollution problem. To implement the act, we are requesting $22,030,000 for 1965, an increase of $6,883,000, the major portion of which is earmarked for newly authorized activities. A supplemental budget estimate of $2,249,000, including $59,000 to be transferred from National Heart Institute for costs of Uniformed Services Pay Act of 1963, has been requested for 1964 to initiate implementation of the new provisions of the act.

A major portion of the increase will be allocated for the grant-in-aid activity to help local, State, and regional agencies assess the extent of their air pollution problems, or initiate or strengthen existing control programs.

The Clean Air Act also, for the first time, provides for Federal responsibility for abatement of air contamination that endangers public health or welfare. This responsibility is to be exercised either on our initiative or at the request of State officials to resolve interstate problems. For intrastate problems, similar Federal abatement actions are authorized but only to be exercised at State request.

Thus, the new legislation goes a long way toward overcoming both the financial and administrative difficulties that now impede effective control efforts in so many parts of the country. As the committee knows, however, there are still technological obstacles to solution of many aspects of the problem, and in recognition of the need to eliminate these, the Congress has directed us to accelerate our research into the causes and effects of air pollution and means of controlling it.

Emphasis is to be placed on finding means to control motor vehicle discharges and to remove sulfur from fuels and stack gases, on the development of air quality criteria which cities and States need as guides to formulating legally enforcible standards, and on studies of new devices and methods for controlling pollution from all sources. Our budget, therefore, contains funds for these activities, as well as for training of increased numbers of badly needed technical personnel and to meet the anticipated increased demand for technical assistance.

Mr. Chairman, the budget we have submitted will permit all levels of government to carry out more effective control programs, in accordance with the will of the Congress as expressed in the Clean Air Act. I shall be glad to answer any questions you and the other committee members may have about this program and the budget request.

Mr. Fogarty. Your appropriation for 1964 is $12,954,000 and there is a supplemental request of $2,190,000. Your 1965 request is $22,030,000, an increase of $6,886,000 and 92 positions, if you get the full supplemental requested.

CLEAN AIR ACT

Now, the supplemental request is based on the Clean Air Act passed late last year. Will you tell us about the major provisions of this act and how they add to your workload?

Mr. MacKenzie. Yes, sir. I will be glad to.

The new Clean Air Act which was approved by the President December 17 of last year, provides a broad authority to the Federal Government in the field of air pollution, broader than has existed in the past. The principal new provisions of the act, in addition to the authority for continuing the previous activity which has consisted heretofore of research, the extension of technical assistance, and the training of technical personnel, are as follows:

First, it authorizes the provision of financial assistance through grants to States and local agencies for initiating or improving air pollution regulatory control programs for which they have the primary responsibility.

Second, the new act provides a limited authority for the exercise of legal regulatory activity for abatement of air pollution. This relates principally to pollution which is interstate in character, that is in which pollution arising in one State adversely affects people or property in another.

Third, it strengthens the provisions relating to the control of air pollution from Federal installations and provides for the first time, for a permit system to be set up by the Secretary of the Department of Health, Education, and Welfare relating to specific classes of pollutants arising from Federal installations.

Fourth, it directs the Department to pinpoint research attention to several widespread and critical air pollution problems, including (*a*) emissions from automotive vehicles; (*b*) the very widespread problem of emissions of oxides of sulfur from sulfur-containing fuels, and (*c*) the development of prototype devices for controlling air pollution where these either do not now exist, or are not completely satisfactory for the intended purpose.

CONTROL OF GAS EMISSION FROM AUTOMOBILES

Mr. Fogarty. With regard to the control of emissions from automobiles, are most automobiles built today with some sort of a control system?

Mr. MacKenzie. The automobiles which are currently being manufactured and distributed throughout the United States now incorporate a so-called blow-by device, which effectively controls the pollutants which formerly were discharged to the air from the crankcase vent of these vehicles. The devices in question recirculate the crankcase vent gases back to the intake of the engine and thus burn the combustibles that would otherwise have been discharged to the air. The effect of this is to reduce by approximately 30 percent the discharges of hydrocarbon pollutants that come from vehicles.

Now the major source of pollutants still remains the exhaust system of the vehicle, and here we are concerned with not only hydrocarbon emissions but also with carbon monoxide and oxides of nitrogen.

Mr. Fogarty. I would think with all the research that is being done in the automobile business, they would come up with something which would be built right into the motor, that would take care of this.

I had a blowby device put on my car. When I traded it in, they said, "You don't need that. There is one already built into this car." Now, I have been told this is not anywhere near as good as the one I had in the old car.

Mr. MacKenzie. I think the one you referred to earlier incorporates a filter system and a sediment chamber, in addition to the other provisions that are in most of them.

CONTROL PROGRAM GRANTS

Mr. Fogarty. $2 million of the supplemental is for control program grants. To whom are these made? For what specific purposes? How are they allocated? Are there matching requirements?

Mr. MacKenzie. Yes, sir. These grants are to be made to State and local air pollution control agencies. These are agencies that operate as an official part of the State or local government.

The purpose of these grants is to assist these agencies in developing, establishing, or improving the regulatory air pollution control programs for which they have responsibility.

The act requires matching funds to be provided by the State or local agency grantee. In general, $1 of local or State money is required for each $2, as a maximum, of Federal grant funds, with the further provision that, with respect to programs which are regional in nature, the matching funds may be reduced to $1 State or local funds to a maximum of $3 of Federal funds.

Now, presumably, the intent here by Congress has been to encourage the development of regional programs where these would be more appropriate to handle the problems than a fragmented program in any particular area.

The grants are to be made on a project basis, on application by individual agencies. There is no formula which is involved in distributing these grant funds. The Department, however, is directed in making the grants, to take into account the population of the area which would be served; the severity of the air pollution problem in the area where the program would be operative; and the extent of financial need of the Government agency which is making the application.

ABATEMENT ACTIVITIES

Mr. Fogarty. $70,000 is for abatement activities. What are your plans in this regard?

Mr. MacKenzie. There are in the United States at least 60 or more interstate areas of which we have general knowledge in which there are air pollution problems which we believe merit some attention, at least a look from us to see what the situation is.

The intent here, under the proposed 1964 supplemental request, is to begin appraisal of the situations that apply to the interstate problems. We must also, however, be prepared under the new act to respond to abatement action requests by State or local agencies as these may be endorsed by the State air pollution control agency or the Governor of a particular State.

In addition, Mr. Chairman, this item for abatement activities under the 1964 supplemental includes provision for implementing the new permit system which is applicable to pollution sources at Federal installations operated by all Federal departments or agencies.

EFFECT OF DELAY IN RECEIVING 1964 SUPPLEMENTAL

Mr. Fogarty. What effect would there be on the 1965 budget if you did not get the 1964 supplemental?

First of all, before you answer that, what effect will a delay in action on the supplemental have on the amount you would need in 1964?

Mr. MacKenzie. Well, we have based the supplemental estimate on the assumption that the funds would become available on April 1. Now, if there was a delay beyond the April 1 date, savings could be effected. We have estimated that if the availability of the supplemental appropriation were delayed until May 15, this would result in a savings, for example, of $60,000.

Mr. Fogarty. All right, now. What effect would there be in the 1965 budget if you don't get a 1964 supplemental?

Mr. MacKenzie. If the 1964 supplemental budget request should not be allowed, a total reduction of $73,000 could be effected in the 1965 budget request. This includes a decrease in pay cost, of course, less an amount for nonrecurring equipment related to new positions.

CONTROL GRANTS IN 1965 BUDGET

Mr. Fogarty. The largest increase in 1965 is $2,400,000 for control grants. Would this increase be just to put the supplemental on a full-year basis or is this for increased activities?

Mr. MacKenzie. This increase of $2,400,000 requested in fiscal year 1965 for the program grants is for the purpose of bringing the total up to $4,400,000 which we estimate is necessary to implement this provision of the Clean Air Act in the manner in which we believe Congress intended.

LIMITATION ON APPROPRIATIONS

Mr. Fogarty. Is there a limitation in the act on the amount that can be appropriated?

Mr. MacKenzie. Yes, sir. There is. The limitation for all purposes for the fiscal year 1965 is $25 million.

Mr. Fogarty. Are there limitations on individual phases of the overall program?

Mr. MacKenzie. There is a limitation in the new act also, on the amount which can be appropriated for the program grants under section 4. This limitation provides that not more than 20 percent of the total amounts appropriated for all purposes of the act, can be devoted to the implementation of this grant section.

RESEARCH GRANTS

Mr. Fogarty. There is an increase of $935,000 for research grants and an increase of $1,508,000 for direct research activities.

Tell us why this increase is needed and what might happen if you don't get it.

Mr. MacKenzie. First, if I may direct my answer to the effect upon the research grants item.

We have used this grant mechanism, as you know, to tap the available competencies in various universities throughout the country for research on air pollution problems with respect to the effects, the means of controlling air pollution, the means of sampling pollutants, meteorological factors determining the spread and diffusion of pollution in the atmosphere, and for similar purposes.

We believe that the research grant program has been highly effective in contributing new knowledge in this field. Certainly, our ability to understand air pollution problems and deal with them has increased very greatly over the past 8 or 9 years. The grant program has contributed in a major way to this advance in knowledge. At no time in the past have we been able to support all of the research grant applications which have been recommended to us for support by the review bodies that look these over and recommend them for approval or disapproval.

The request that is pending for 1965 would pick up most of the existing backlog of grants now recommended for approval, and would continue to provide support for projects initiated either in this fiscal year or at an earlier time, which need to be supported for longer periods in order to obtain results of the research in each case.

DIRECT RESEARCH ACTIVITIES

With respect to the other element of your question, namely, that concerned with the increase for direct activities, this applies to research which we would carry out in our own facilities, and to a number of research activities which we would propose to support by contract. Specifically, it would provide support to those particular areas of research to which we have been directed under the new Clean Air Act to give emphasis.

In addition, the increase for direct activities will provide for the administration of the program grant provisions of the new act, and the operation of the abatement activities specified in the new act.

Mr. FOGARTY. Now, will you supply for the record your backlog of approved applications, and what you could do if you had sufficient funds that you will not be able to do with this budget?

Mr. MACKENZIE. Yes, sir.

(The requested information follows:)

BACKLOG AND APPROVED APPLICATIONS FOR RESEARCH GRANTS

The air pollution research grant program has been especially effective in developing new scientific knowledge which materially contributes to an understanding of the nature of air pollution, its effects, and practical means for its control. This program has achieved significant results principally as a result of the rigorous competition, review, and approval which go into the selective process and the tapping of the imagination and initiative of university researchers interested in air pollution problems. It is especially important, as we enter a period of accelerated Federal, State, community, and industrial control activity, that the elements in our society responsible for prevention and abatement of air pollution have the maximum possible body of scientific knowledge. Where research grant applications, which have passed the review and approval process, are not initiated because of fiscal considerations, those with control responsibilities have accordingly less adequate tools with which to work.

During 1964, the backlog of $344,502, consisting of 12 approved research project applications, would provide, if funded, research activity in a variety of air pollution technical problem areas. Some examples of work which cannot be funded in 1964 are the following: studies of the distribution of air contaminants; methods of evaluating air pollution in communities; studies of organic contaminants in the air over New York City; effects of inhaled diesel engine exhaust; the formation and behavior of aerosols; the effects of ozone on plants; ways in which pesticides drift; the effect of humidity on the size of soluble aerosols; a study of a new method of collecting traces of gases; and the effects of fluoride gases on agricultural plants.

It is estimated that in 1965, in view of the anticipated backlog of approved projects (23 grants, $729,000) which will not be funded, some of the following problem areas will remain incompletely studied:

1. Studies in mesometeorology involving the instrumentation of towers up to 1,000 feet in height.
2. A broad-scale attack on the problem of emphysema and other chronic pulmonary diseases utilizing appropriate filtration apparatus for controlling the environment within chambers.
3. A typical epidemiological study which attempts to define the relation between air pollution and various kinds of morbidity.
4. Studies of sources and effects of sulfur compounds in the atmosphere.
5. Studies of the vehicular exhaust problem.

LIMITATION ON APPROPRIATIONS

Mr. Fogarty. Was there a limitation on what could be appropriated in the area of air pollution before this legislation was passed?

Mr. MacKenzie. This is the first time in which there has been a specific overall appropriation limitation. In the act that was passed by the Congress in 1955, there was a limitation on certain specific functions relating to air pollution. However, we had available until the new Clean Air Act was passed, the general authorities of the Public Health Service Act relating to the conduct and support of health research on which there is no such limitation.

Mr. Fogarty. I notice in the footnote on this statement that I have, that you asked for $25,114,000. The footnote explains that the legislation held you down to $25 million.

Mr. MacKenzie. Yes, sir.

Mr. Fogarty. This limitation in this particular area, I think, is a mistake. You just have this overall limitation and there is not a thing you can do about it, unless Congress amends the act.

Mr. MacKenzie. That is my understanding, sir.

Mr. Fogarty. Suppose an emergency should arise?

Mr. MacKenzie. I think in the event of any emergency that should develop, that it would be up to Congress to take appropriate action.

Mr. Fogarty. This ceiling on expenditures in this area of air pollution is going to make it more difficult for you to get some of the answers, isn't it?

Mr. MacKenzie. Well, it serves as a lid on the amount of work that we will be able to carry on in this area.

Mr. Fogarty. So, if you have worthwhile projects coming up that would entail expenditures of over $25 million, they will just have to be put off.

Mr. MacKenzie. Yes, sir.

Mr. Fogarty. What was the thinking of Congress on this limitation, do you know? When you testified before the legislative committee, was this discussed?

Mr. MacKenzie. The position of our Department with respect to appropriation ceilings in this act was that we were opposed to them. We were not in favor of having such limitations in the new legislation. This was pointed out in the official reports forwarded to the congressional committees that considered the legislation, and was reiterated in the testimony of the Department before the committees.

Mr. Fogarty. What do you think about such limitations?

Mr. MacKenzie. I personally think it might be more appropriate, certainly, to have limitations on authorities for appropriation with respect to construction items. However, where it is a matter of dealing with a research or similar problem for which a specific estimate of total cost cannot be made, as can be done for items of construction, I think this is a different class of problem for which a limitation on appropriation authority is less suited.

Mr. Fogarty. Then there is not anyone that can say to a congressional committee that this problem is going to level off next year.

Mr. MacKenzie. No, sir.

Mr. Fogarty. Or 2 years from now or 5 years from now.

Mr. MacKenzie. It is quite the other way.

Mr. Fogarty. It is just the opposite, isn't it?

Mr. MacKenzie. Yes, sir.

Mr. Fogarty. It gets greater as time goes on and perhaps will cost more.

Mr. MacKenzie. Certainly, all of the trends in our society are along the directions that would produce greater potential for air pollution problems. The increases in population, the concentration of people in urban communities, and the increase in scale of our economy, in the production of materials, the uses of materials—all of these tend to work together toward increases in air pollution.

Mr. Fogarty. It seems wrong to put limitations on appropriations like this.

Dr. Terry. Mr. Chairman, I think in relation to that, we should make it clear that the Clean Air Act does allow an increase in ceiling over the next 2 years. For instance, for 1966, it is $30 million and in 1967 it is $35 million.

Mr. Fogarty. In 1967 you might want to be spending twice the amount authorized.

Mr. MacKenzie. In this event, we will have to come back to Congress and get the legislation amended, sir.

Mr. Fogarty. Well, will there be any hesitancy upon your part if you find next year the $30 million ceiling is going to hold you back and prevent you from moving ahead as fast as most people, I think, want you to move ahead—will you suggest to the committee or the Department that something ought to be done to raise the ceiling.

Mr. MacKenzie. I would certainly have no hesistancy in doing so, and further, I would feel that it is part of my responsibility to do so.

Mr. Fogarty. I wish you would keep this committee informed, also.

Mr. MacKenzie. Yes, sir.

RESEARCH RELATED TO AUTOMOBILE EXHAUST

Mr. Fogarty. Now we have been talking about automobile exhaust as one of the big problems. Are you satisfied that the oil industry and the automobile industry are doing their fair share? They claim they are, but I never did think they were doing as much as they ought to be doing. I cannot help but think that the oil industry should be spending 20 times what they are spending now.

Mr. MacKenzie. Well, I cannot profess to be satisfied at all, as long as the problem remains unsolved. I think that both industry and Government should spend more money on this problem, to accelerate development of appropriate answers. We are not making as much progress as I had hoped about 2 years ago. At that time, it appeared very likely from a technical standpoint that soon there would be devices available that could be put on the exhaust systems of automobiles in the form of afterburners, that would effectively eliminate any desired proportion of unburned hydrocarbon emissions. Technically this capacibility, I think, still exists; but from a practical standpoint, the hardware devices that have been developed by industry have not yet been able to stand up to the type of service that is involved in automobile operation and to continue to effectively reduce the hydrocarbon pollutant emissions as they are intended. It may well be that these devices can be made more effective and to stand up under the severe type of service to which they are exposed, but this has not proved to be the case up to now.

Mr. Fogarty. What about the oil industry?

Mr. MacKenzie. They are supporting some research in this field, sir.

Mr. Fogarty. Some?

Mr. MacKenzie. I would not say that I am satisfied with the total amount of research which is being done in the field, regardless of who was doing it or supporting it.

Mr. Fogarty. I agree with you. I think the Government ought to be doing more than it is doing, but I also think industry has some responsibility in this area.

Mr. MacKenzie. I think we all should do more.

Mr. Fogarty. I cannot help but feel that the oil industry should be and could be doing more than they are now, do you not think so?

Mr. MacKenzie. Certainly.

Mr. Fogarty. Well, why do you not do something about it?

Mr. MacKenzie. We are endeavoring to, sir.

Mr. Fogarty. How much money have you spent on it this year?

Mr. MacKenzie. The automobile problem?

Mr. Fogarty. Yes.

Mr. Bersano. In auto exhaust studies we are spending $3,173,000 this year.

Mr. Fogarty. What did you spend last year?

Mr. Bersano. Last year we spent about $2,800,000.

Mr. Fogarty. Well, you are going up a little but it is not much of an increase. Are you doing most of this work out in Cincinnati?

Mr. MacKenzie. We are doing most of this in Cincinnati. These figures include, however, projects which we are supporting by contracts.

RESEARCH RELATED TO OXIDES OF SULFUR

Mr. Fogarty. Now I notice you are placing quite a bit of emphasis on research related to oxides of sulfur.

Mr. MacKenzie. Yes, sir.

Mr. Fogarty. Why are you giving this particular attention?

Mr. MacKenzie. This is a very widespread problem. A large proportion of the fuels burned in the United States contain varying amounts of sulfur. Most coals, for instance, contain from 1 to 6 percent sulfur. Petroleum fuels of the residual type, that is, the nondistillate petroleum fuels, contain similar quantities of sulfur. Wherever these fuels are burned, whether in a home heating furnace or in a powerplant, the sulfur is burned, also, and the sulfurous gases are discharged into the atmosphere. Our use of fuels in this country is increasing very greatly for all purposes. Notably, the increase is related to our increasing demand for electrical energy and our increasing demand for fuels in industrial operations. These are concentrated sources of fuel use and consequently concentrated sources of sulfur oxide emissions to the atmosphere.

We believe that as of now we have about reached a point of diminishing returns in our ability to diffuse sulfurous gases by building taller and taller smokestacks. As powerplants have increased in size, the approach to dealing with this problem of sulfur emissions has been to build increasingly higher smokestacks. These are now getting up to as high as 800 feet or more. We are now reaching the point where further height on such chimneys, in our opinion, will produce no real benefit because of the inherent limitations of depth in the atmosphere available for diffusion. Consequently, we are going to have to give much more attention to this problem and develop means of eliminating or greatly reducing the emissions to the air of oxides of sulfur, either by removing the sulfur from the fuel or by removing the sulfur dioxide, sulfur trioxide, and sulfuric acid from the stack gases.

Mr. FOGARTY. Or stop using that kind of fuel?

Mr. MACKENZIE. Yes, sir.

EFFECTS OF AIR POLLUTION ON AGRICULTURE

Mr. FOGARTY. On page 39 you indicate you are spending about $130,000 a year on the effects of air pollution on agriculture. Why should this not be the sole responsibility of the Department of Agriculture?

Mr. MACKENZIE. This, I think, is a subject for negotiation between our Department and the Department of Agriculture, quite frankly. Both Departments have sufficient authority to carry on research on the effects of air pollutants on agricultural crops, on vegetation, on farm animals. We have kept closely in touch with the Department of Agriculture on this subject, and the amount of money which is included in this budget for such research is expended largely in cooperation with the Department of Agriculture. Through agreement with that Department, we have arranged for assignment of agricultural research specialists from it to our laboratories in Cincinnati.

In addition, we both have agreed that more work should be done on this phase of the overall air pollution problem, because there is very extensive damage being produced, not only to agricultural crops, but also to forests. The Agricultural Research Service for several years made budgetary requests to initiate a greater activity in research in this field but has never had these implemented. They have asked us now if we would carry this on, and advised that they would be willing to cooperate with us in whatever way this could be implemented.

Mr. FOGARTY. Well, what I had in mind—I think you make sense in what you are talking about—but to get a little more practical about the situation, the Department of Agriculture does not have any ceiling, do they?

Mr. MACKENZIE. That is right.

Mr. FOGARTY. Well, would it be possible that they could perhaps do more in this area because they do not have a ceiling and you could use these funds for other purposes for which you need more funds?

Mr. MACKENZIE. The only problem that I see with this, sir, is the legislative history of the Clean Air Act. In one of the committee reports pertaining to this subject, the intent apparently was made clear that all of the funds relating primarily to air pollution research or control should be appropriated under the authority of the Clean Air Act. We can only go by——

Mr. FOGARTY. Well, that is a pretty fine question, but do you yourself think it is negotiable?

Mr. MACKENZIE. Yes, sir.

We would appreciate any guidance that you can provide to us on this matter.

ABATEMENT ACTIVITIES

Mr. Fogarty. You have a requested increase of $460,000 and 33 positions for abatement activities. This would more than double the staff for this part of the program. Will you comment on this?

Mr. MacKenzie. Yes, sir. The abatement activity which has been authorized in the new act, we regard as a highly important new function in this program. Many of the problems which are interstate in nature are not fully susceptible to control by State or local agencies. It is in my opinion an important advance that has been made under this new act, therefore, to provide a Federal jurisdiction that will fill this gap. The amounts of money that are provided here are for the purpose of responding to requests for the initiation of legal abatement actions, for the gathering of data pertaining to interstate problems particularly, and will provide the technical and legal competence that will be required for us to carry out the functions that are specified in section 5 of the act; and to implement the Federal permit system, which relates to the control of air pollutants from Federal establishments throughout the country.

NATIONAL AIR SAMPLING NETWORK

Mr. Fogarty. How extensive is the national air sampling network and what of significance are you finding in the way of differences between cities, differences in the same cities under different weather conditions, and so forth?

Mr. MacKenzie. The National Air Sampling Network actually consists of several networks at the present time. The original network was set up to collect samples of particulates, both in urban settings and in rural areas for evaluative purposes. In this particulate sampling network, samples of the particulate material are collected by air filtration over a 24-hour period at about 250 sampling stations throughout the United States, the majority of which are in urban situations. The collected material is assayed for the total amount present per unit volume of air and separate chemical analyses are made for a number of mineral constituents and for organic materials. There is considerable difference in the amount and character of particulate pollution found in various communities and in some of the nonurban settings. For example, the pollution of this type in the atmosphere of some cities may amount to five or six or more times what you find in relatively clean rural atmospheres.

In addition to this particulate sampling network, we are operating a less extensive network for sampling of gases on a 24-hour average period, for several important pollutants: sulfur dioxide, which has been mentioned earlier in this hearing, oxides of nitrogen, and oxidants. These are done by sampling the gases through bubblers in which appropriate chemical reagents have been incorporated to take out the pollutional substances for which you are sampling.

In addition to this gas sampling network, a more intensive one is being operated in nine locations, where automatic equipment is used which samples the air for a number of pollutant gases at approximately 5-minute intervals. The gases which are sampled for are:

sulfur dioxide, nitric oxide, nitrogen dioxide, oxidants, ozone, total hydrocarbon carbon monoxide. These sampling stations are, because of their expense, currently operating only in nine locations. The results of their operation are recorded on charts and also on punched tape, which is forwarded to our laboratory in Cincinnati for automatic data processing and analysis in the computer system which we have there.

In the operation of these gaseous networks we find significant differences in the character of pollution from one city to another. In some areas, the most important type of pollution apparently is the photochemical type, which derives from automobile exhaust principally. In other areas, oxides of sulfur have major importance. These differences relate to the variations in the type of industry in the community, the type of fuel which is used, and variations in patterns of transportation use.

Mr. Fogarty. Do we have any significant amount of air pollution in Washington outside of what might be attributable to automobiles?

Mr. MacKenzie. The automobile type of pollution in the Washington, D.C., area is probably of prime importance.

Mr. Fogarty. Automobiles and buses?

Mr. MacKenzie. The pollution comes primarily from automobiles, sir.

Mr. Fogarty. You have not ridden behind a bus recently then, have you?

Mr. MacKenzie. I would agree fully with you that the buses are much more odorous. However, from the standpoint of physiological effect, we believe that the emissions from automobiles are a greater contribution.

Mr. Fogarty. Not to those who ride behind a bus, they are not.

Mr. MacKenzie. In addition to the automobile problem in Washington, there is also a sulfur problem because of the combustion of sulfur containing fuel here, although the elevation of pollutional levels of sulfur dioxide in this area does not occur as frequently as high levels of oxidant-type pollution.

Mr. Fogarty. Is that fuel burned by the Government you mean?

Mr. MacKenzie. Some burned by the Government, some in heating plants, power stations——

Mr. Fogarty. Why should not the Government take corrective measures?

Mr. MacKenzie. This is a problem to which we think we must give more attention in the future, sir.

POLLUTION PROBLEMS IN LOS ANGELES COUNTY

Mr. Fogarty. I received a letter from a member of the Board of Supervisors, County of Los Angeles—Kenneth Hahn, supervisor, second district. He says that everything has been done in Los Angeles County that can be done and the biggest problem out there now is two things: The burning of crude oil and motor vehicles. They say they cannot do anything about the motor vehicles, because they are produced in Detroit and not under the regulation of Los Angeles County; and burning of crude oil during the months from November 15 to April 15, is because the Federal Power Commission has not authorized more natural gas for Los Angeles County.

Mr. MacKenzie. With respect to the latter problem, if I may comment, they have attempted to eliminate the burning of sulfur-containing fuel through the substitution of essentially sulfur-free natural gas, during the period of the year in which the natural gas is available. This is for industrial use and for power generation. In the periods that are mentioned by Mr. Hahn; namely, from November 15 to April 15, that rule has been inoperative because of the higher demand for natural gas for domestic home heating and its consequent unavailability during a good portion of this period of time for use in power stations and industrial establishments, where the fuel oil that you refer to is burned.

AGREEMENT WITH CITY OF CHICAGO

Mr. Fogarty. Do you want to say anything about the 5-year grant to the city of Chicago? That is a unique sort of grant, is it not?

Mr. MacKenzie. It is not a grant, sir. This is an agreement for technical assistance.

Mr. Fogarty. That is the way it was written up in a publication I have here: "A 5-year grant has been awarded to the city of Chicago for the first comprehensive air pollution emission survey in the city's history. It is also the first grant of its kind ever awarded by the USPHS."

Mr. MacKenzie. We have entered into an agreement with the city of Chicago to provide a continuing collaborative arrangement with them. We have assigned people there. We will be receptive to grant applications from the city of Chicago and other organizations in the area to implement the improvement of their programs. There has been no big grant, however, of this type which has been made up to the present time.

Mr. Fogarty. Do you have anything else you want to say?

Mr. MacKenzie. No, sir.

Mr. Fogarty. Thank you very much, gentlemen.

JUSTIFICATION MATERIAL

(Following is the justification material submitted to the committee:)

Air Pollution

Amounts available for obligation

	1964	1965
Appropriation	$12,954,000	$22,030,000
Transfer to "Operating expenses, Public Buildings Service," General Services Administration	−21,000	
Transfer from "National Heart Institute" due to Uniformed Services Pay Act of 1963	+59,000	
Comparative transfer from "Salaries and expenses, Office of the Surgeon General"	+11,000	
Comparative transfer to "Environmental health sciences"	−30,000	
Comparative transfer to "Salaries and expenses, Office of the General Counsel" (4 positions)	−16,000	
Pending program supplemental	+2,190,000	
Total	15,147,000	22,030,000

Obligations by activity

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Grants		$6,851,000		$11,201,000		+$4,350,000
Research		3,851,000		4,786,000		+935,000
Fellowships		127,000		252,000		+125,000
Training		873,000		998,000		+125,000
Control programs		2,000,000		4,400,000		+2,400,000
Survey and demonstration				765,000		+765,000
Research, training, and technical services	466	8,296,000	558	10,829,000	+92	+2,533,000
Research	342	6,965,000	383	8,473,000	+41	+1,508,000
Abatement activities	20	54,000	53	657,000	+33	+603,000
Technical services	74	923,000	89	1,275,000	+15	+352,000
Training	30	354,000	33	424,000	+3	+70,000
Total obligations	466	15,147,000	558	22,030,000	+92	+6,883,000

Obligations by object

	1964 estimate	1965 estimate	Increase (+) or decrease (−)
Total number of permanent positions	466	558	+92
Full-time equivalent of all other positions	15	23	+8
Average number of all employees	425	523	+98
Number of employees at end of year:			
Permanent positions	455	542	+87
Other	18	23	+5
11 Personnel compensation:			
Permanent positions	$3,046,000	$3,819,000	+$773,000
Positions other than permanent	74,000	110,000	+36,000
Other personnel compensation	23,000	17,000	−6,000
Total, personnel compensation	3,143,000	3,946,000	+803,000
12 Personnel benefits	386,000	469,000	+83,000
21 Travel and transportation of persons	267,000	340,000	+73,000
22 Transportation of things	44,000	63,000	+19,000
23 Rent, communications, and utilities	157,000	232,000	+75,000
24 Printing and reproduction	82,000	140,000	+58,000
25 Other services	244,900	334,000	+89,100
Research contracts	1,220,000	1,857,000	+637,000
Services of other agencies	1,045,000	1,400,000	+355,000
Payment to:			
Bureau of State Services management fund	899,100	918,000	+18,900
National Institutes of Health management fund	51,000	56,000	+5,000
26 Supplies and materials	310,000	430,000	+120,000
31 Equipment	445,000	642,000	+197,000
32 Lands and structures	2,000	2,000	
41 Grants, subsidies, and contributions	6,851,000	11,201,000	+4,350,000
Total, obligations by objects	15,147,000	22,030,000	+6,883,000

Summary of changes

1964 enacted appropriation	$12, 954, 000
Transfer to "Operating expenses, Public Buildings Service," General Services Administration	−21, 000
Transfer from "National Heart Institute" due to Uniformed Services Pay Act of 1963	+59, 000
Comparative transfer from "Salaries and expenses, Office of the Surgeon General"	+11, 000
Comparative transfer to "Environmental health sciences"	−30, 000
Comparative transfer to "Salaries and expenses, Office of the General Counsel" (4 positions)	−16, 000
Pending program supplemental	+2, 190, 000
Total estimated obligations, 1964	15, 147, 000
1965 estimated obligations	22, 030, 000
Total change	+6, 883, 000

INCREASES

"Built in":	
1. Annualization of step 2 of the civil service pay increase	54, 000
2. Annualization of increased cost of Uniformed Services Pay Act of 1963	27, 000
3. Annualization of 10 new positions authorized in 1964	20, 000
4. Annualization of 47 new positions in 1964 proposed supplemental	324, 000
Subtotal, "built in" increases	425, 000
Program increases:	
1. Research grants	935, 000
2. Fellowships	125, 000
3. Training grants	125, 000
4. Control program grants	2, 400, 000
5. Survey and demonstration grants	765, 000
6. Expansion of research (41 positions)	1, 381, 000
7. Abatement activities (33 positions)	460, 000
8. Expansion of technical services (15 positions)	233, 000
9. Expansion of training (3 positions)	63, 000
Subtotal, program increases	6, 487, 000
Gross increases	6, 912, 000

DECREASES

1. Nonrecurring requirements for equipment	−20, 000
2. 1 less day of pay in 1965 (262 days in 1964; 261 days in 1965)	−9, 000
Subtotal, decreases	−29, 000
Total net change requested	6, 883, 000

EXPLANATION OF CHANGES

Research grants

An increase of $935,000 is requested, $832,000 for the support of approximately 36 new and continuation grants, and $103,000 for increased indirect costs.

Fellowships

An increase of $125,000 is requested to provide a core of technically trained personnel capable of leadership in air pollution research and control. Increase will permit the funding of approximately 19 additional fellowships.

Training grants

An increase of $125,000 is requested for expansion of graduate level curriculums and to provide student stipends, for training technical air pollution personnel. The increase will permit support of two new grants.

Control program grants

An increase of $2,400,000 is requested to provide grants-in-aid to air pollution control agencies for stimulating and encouraging the development, establishment, and expansion of air pollution control activities at the local level considered to be far below a minimum desirable level. The proposed 1964 supplemental will permit initiation of this program authorized by the Clean Air Act.

Survey and demonstration grants

An increase of $765,000 is requested to initiate a program of grants-in-aid on a matching basis to States and communities for assessment of their air pollution problems as a preliminary phase for expansion of control programs, and to carry out the provisions of the Clean Air Act (Public Law 88–206). An estimated 25 to 35 grants will be awarded in 1965.

Expansion of research

An increase of $1,381,000 and 41 positions is requested to provide added emphasis to existing programs principally in the following areas: (1) control and prevention of automotive emissions, (2) health effects from exposure to oxides of sulfur, and (3) studies of intraurban and interurban transport and dispersion of pollutants; and expand programs authorized by the Clean Air Act for: (1) development of air pollution criteria, (2) desulfurization of fuels, and (3) development of control devices and processes. In 1964, the proposed supplemental will provide funds for initiation of programs authorized by the Clean Air Act.

Abatement activities

An increase of $460,000 and 33 positions is requested to expand programs authorized by the Clean Air Act, designed to secure the abatement of air pollution and to provide the issuance of permits to Federal facilities for the control of air pollution discharges. This program will be initiated in 1964 with the proposed supplemental.

Expansion of technical services

An increase of $233.000 and 15 positions is requested to cope with the growing number of requests from States, communities, and industry for advice, assistance, and loan of equipment; administration of the review and approval functions associated with the expanded research grants, training grants, and fellowship program; and for a staff to review, approve, or reject survey and demonstration grants. The increase will also provide for additional staff to review, approve, or rejects control program grants, and to support a committee on automotive vehicle and fuel pollution authorized by the Clean Air Act. In 1964, a proposed supplemental will provide funds for the initiation of this program.

Expansion of training

An increase of $63,000 and three positions is requested for the training activity at the Sanitary Engineering Center in Cincinnati, Ohio, to provide additional intensive short-term technical courses at the Center and in the field for State. local, and industrial personnel.

Decreases

The decrease of $29,000 represents nonrecurring costs for equipment in 1965 related to positions new in 1964 and 1 less day of pay in 1965.

Explanation of transfer

	1964 estimate	1965 estimate	Purpose
Comparative transfer to:			
"Environmental health sciences"	$30,000	0	To exclude from this appropriation funds for the grant review and approval activity in the Office of Resources Development, Environmental Health, previously budgeted in the Bureau of State Services management fund.
"Salaries and expenses, Office of the General Counsel."	16,000	0	Transfer to Office of the General Counsel for legal services.
Comparative transfer from "Salaries and expenses, Office of the Surgeon General."	11,000	0	For decentralization of costs for accounting services provided in the Washington area.
Transfer to "Operating expenses, Public Buildings Service," General Services Administration.	21,000	0	To transfer to General Services Administration funds for leased space.
Transfer from "National Heart Institute."	59,000	0	To transfer funds to cover increased pay costs due to Public Law 88-132.

Air pollution

	Budget estimate to Congress	House allowance	Senate allowance	Appropriation
1962	$8,100,000	$8,600,000	$8,900,000	$8,800,000
1963	10,069,000	11,069,000	11,069,000	11,069,000
1964	12,998,000	12,954,000	12,954,000	12,954,000
1964 proposed supplemental	2,190,000			
1965	22,030,000			

For 1965, the first full year of operation under the Clean Air Act (Public Law 88-206), $22,030,000 is requested, an increase of $6,883,000 over the amount estimated for 1964. A supplemental appropriation of $2,190,000 for 1964 is anticipated for separate transmittal.

Grants

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Number	Amount	Number	Amount	Number	Amount
Research		$3,851,000		$4,786,000		+$935,000
Fellowships		127,000		252,000		+125,000
Training		873,000		998,000		+125,000
Control programs		2,000,000		4,400,000		+2,400,000
Survey and demonstration				765,000		+765,000
Total, grants		6,851,000		11,201,000		+4,350,000
Research grants:						
1. Noncompeting continuations	78	1,947,000	110	2,759,000	+32	+812,000
2. Competing continuations	20	509,000	20	509,000		
3. Supplementals	(6)	130,000	(2)	41,000	(−4)	−89,000
4. Wholly new grants	44	1,106,000	48	1,215,000	+4	+109,000
5. Increased indirect costs:						
(*a*) To 20 percent [1]		159,000		197,000		+38,000
(*b*) To 25 percent [2]				65,000		+65,000
Total	142	3,851,000	178	4,786,000	+36	+935,000

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[1] Relates to all grants approved for support in these years.

[2] Relates to proposed increase in indirect cost rate to 25 percent for grants awarded on or after Jan. 1, 1965.

Research grants are awarded to support projects, primarily in universites, on all aspects of air pollution. The scientific ideas, contained in research proposals submitted by investigators, are reviewed by advisory groups of non-Federal experts, and awards are made on the basis of their recommendations. Some significant projects are mentioned in the following paragraphs.

In order to determine how lung cancer, emphysema, asthma, and other diseases of the respiratory system may be related to inhaled pollutants, we need answers to many questions about the normal functioning of the human breathing mechanism. Dr. Mary Amdur and Dr. Jere Mead, Harvard School of Public Health, are investigating, respectively, the effects of pollutants on the respiratory mechanisms of laboratory animals and on the muscular behavior of the diaphragm of humans.

In connection with the current emphasis on reducing pollution from auto exhaust, Dr. W. H. Burrows, Georgia Institute of Technology, is studying the effects on exhaust gas composition by modifying a six-cylinder engine. Although the project has been underway less than a year, the modifications have already resulted in substantially reduced amounts of the carbon-hydrogen compounds of gasoline which are found in vehicle exhaust.

One of the serious problems in air pollution research has been that of identification and measurement of very minute quantities of airborne substances. Dr. Philip West, Louisiana State College, Baton Rouge, La., has devised new techniques for analysis of particulate matter which enable chemists to identify separate components of dust mixture and also to estimate the amounts present.

An increase of $935,000 is requested for 1965 to permit continuation of the 1964 program and to award new projects. Research grants earmarked for continuation under the requested increase include studies on the air pollution relationship to acute respiratory disease, the reaction of lung tissue to air pollution, the injury to forest trees by ozone, various meteorological aspects of air pollution, and studies on the determination of size of air pollution particles.

Fellowships

As an additonal means of meeting the personnel shortage in trained air pollution specialists, the fellowship program is developed to complement the training grant activity and is an integral part of the overall air pollution training effort. Experience has shown that financial assistance is necessary to attract enough new students into graduate study in the air pollution fields. The request for 1965 of $252,000 will provide an estimated 38 fellowship awards to individuals at an average of approximately $6,600 per award.

The graduate level study in air pollution supported by the fellowship awards covers all phases of the air pollution field, including the physical, biomedical, social, and economic sciences. Study is for a period of 1 to 3 years' duration. The fellows supported will provide a vital core of technically trained leadership as the national public and private efforts in air pollution research, control, and teaching expand.

Training grants

The shortage of trained technical air pollution personnel is a serious handicap to those States and communities which are attempting to initiate or improve air pollution control programs. Those industries which have organized industrial plant pollution control programs are also experiencing difficulty in finding appropriately trained personnel.

As a means of alleviating this personnel shortage, the air pollution training grant program provides support to universities to develop graduate-level training curriculums. The grants to universities are also available to finance students desiring a career in combating the problems of air pollution. The development of broad air pollution curriculums embraces a variety of disciplines—including the physical, biomedical, and social sciences. Grantee universities draw on the various departments for these disciplines, and, where necessary, add special scientific or engineering faculties.

For 1965, the grant program calls for 19 grants to institutions, each averaging about $50,000. In 1965 it is estimated the training grant program will support 35 professional staffs as compared to 31 in 1964 and 25 in 1963. Approximately 59 graduate students will be trained in 1965 as compared to 45 in 1964 and 26 in 1963.

Control program grants

Under section 4 of the Clean Air Act, authority is provided for the award of grants to air pollution control agencies, on a matching basis, for the purposes of establishing, developing, or improving programs for the prevention and control of air pollution. This new authority was provided as a result of a general consensus that the available knowledge to control and abate air pollution is not being satisfactorily or sufficiently applied. Control programs by States and communities are, nationally considered, far below a minimum desirable level. Control grants provide a basic means for stimulating and encouraging the expansion of such activities.

Applicants for air pollution control program grants will be required to submit a workable plan which will describe the type of program to be carried on, and which will indicate the possession of, or schedule for obtaining: (a) Survey data as evidence of need for the program; (b) adequate legal authority for conduct of air pollution control; and (c) suitable personnel, equipment, facilities, and other necessary resources. Evidence of intent of the applicant to continue the program subsequent to the termination of grant support should also be provided. The act authorizes grants to be made in amounts up to two-thirds of the total cost of the project or, in the case of interstate or other regional air pollution programs, up to three-fourths of the cost of the project. No agency shall receive such grants during any fiscal year when its own expenditures for air pollution programs will be less than they were during the preceding year. This grant program will be operated on a project evaluation basis, taking into account population, the extent of the actual or potential problem, and the financial need of the respective applicants. The act provides that up to 20 percent of the total appropriation may be available for control program grants. Not more than 12½ percent of the funds available will be expended in any one State.

Survey and demonstration grants

Survey grants are for the purpose of assessment and definition of the air pollution problems of States and communities. Such grants are an important preliminary phase in any effort to initiate or expand a control program in a State or community. Such assessments provide a sound technical basis upon which realistic, long-range control programs can be formulated and carried out.

A staff study performed by the Public Health Service reveals that far too many communities and the people within these communities are beset by air pollution problems and have little or no organized program to deal with this situation. In total, approximately 6,000 communities have air pollution problems of varying degree for which active control programs should be initiated or strengthened. The study data showed that air pollution programs which have full-time staffs provide coverage to about 45 percent of the population in areas which have air pollution problems, and many of these existing programs are not adequate for the intended purpose. Of the 218 urban places with more than 50,000 population which have a major or a moderate air pollution problem, only 119, or 55 percent, according to the study mentioned above, are served by an air pollution control agency. In addition, less than half of the urban places with a major or a moderate air pollution problem and with less than 50,000 people are served by a control agency.

The survey grant program proposed for 1965 provides for financial assistance, on a matching basis in amounts up to two-thirds of the cost, to States and communities, after review and approval of specific proposals are submitted. Awards are expected to be made for a single year only to any one applicant. Review and approval criteria to be used by the Public Health Service will include technical feasibility, availability of appropriately qualified technical staff, and the status of the applicant's existing air pollution control program.

On the basis of a minimum cost of $20,000 per survey, from 25 to 35 grants will be awarded.

Research, training, and technical services

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	466	$3,529,000	558	$4,415,000	+92	+$886,000
Other expenses		4,767,000		6,414,000		+1,647,000
Total	466	8,296,000	558	10,829,000	+92	+2,533,000

Summary of program

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Research	342	$6,965,000	383	$8,473,000	+41	+$1,508,000
Analysis, identification, measurement, and control of air pollution	164	3,850,000	186	4,828,000	+22	+978,000
Determination of the effects of air pollution:						
Medical and biological studies	101	1,937,000	114	2,304,000	+13	+367,000
Community and other field studies	77	1,178,000	83	1,341,000	+6	+163,000
Abatement activities	20	54,000	53	657,000	+33	+603,000
Technical services	74	923,000	89	1,275,000	+15	+352,000
Training	30	354,000	33	424,000	+3	+70,000
Total	466	8,296,000	558	10,829,000	+92	+2,533,000

RESEARCH

(*1*) *Analysis, identification, measurement, and control of air pollution*

This activity covers principally the engineering, chemical, meteorological, and related physical sciences aspects of air pollution. Research and development activities are conducted in order to find new and improved methods for identifying air pollutants, for ascertaining their location, their distribution, and their travel patterns, and for controlling emissions at the source.

As part of this area of activity, the Public Health Service operates the National Air Sampling Network in cooperation with States and communities, as a means of determining long-range trends in specific types of pollutants. Contract research in specialized areas is conducted in universities and other research organizations, and in the facilities of the Bureau of Mines, the Weather Bureau, and the National Bureau of Standards.

The Clean Air Act provides for added emphasis on the application of existing knowledge to control sources of air pollution emissions. This approach will require an intensified effort in the development of new devices, processes, and methods for pollution abatement, as specified in the act. Studies relating to the development of new power systems for automobiles for automotive-pollution control will be augmented. Techniques currently available for control of air pollution will be studied to determine which are the most economic and effective. A great deal of the work in this area will be on a contractual basis, particularly with industry on control of industrial air pollution.

The increase requested for this research activity in 1965 will provide for additional efforts principally in the three important areas described below.

(*a*) *The relationship of automotive emissions to community air pollution, with particular emphasis on preventive measures through improved design and performance of engines and equipment.*—Two key points are important in this area. First, while the "blowby" control device, which reduces contaminants from the crankcase and is now standard equipment in all American 1963 and later model automobiles, will be useful in reducing approximately 30 percent of the total hydrocarbon emissions from new automobiles, the major portion of the emissions, through the rear exhaust system, is still not controlled. Second, the Public Health Service does not propose to engage directly in the design of proprietary devices; for those, industry is directly responsible. In addition to the research conducted at the Public Health Service research facility in Cincinnati, this area of work will be pursued, through contract, by the Bartlesville Research Station of the Bureau of Mines and by non-Federal research contractors. Additionally, the Public Health Service has developed cooperative working arrangements with various elements of the automotive industry and scientific automotive research organizations.

The Clean Air Act provides for the establishment of a technical committee, representing the Department and industry, to evaluate progress in the development of devices and fuels and to recommend research programs which will lead to the further development of fuels and devices to prevent the discharge of pollutants from automotive vehicles.

(*b*) *Mesoscale meteorological study of the intraurban and interurban transport and diffusion of air pollutants.*—As urban areas expand in certain areas into continuous chains of urban communities, the phenomenon of long-distance travel of air pollutants takes on special significance. In order to achieve a sound technical understanding of this type of air pollution behavior, for purposes of satisfactory control techniques, a long-range meteorological study of this phenomenon has been instituted, a first phase in the St. Louis metropolitan area, and subsequently, a second phase in the Philadelphia-adjacent eastern seaboard area. In 1965, the preliminary St. Louis diffusion experiments and air trajectory studies will be continued and testing of the diffusion model, developed in the air pollution-meteorological study in Nashville, will be initiated in the Philadelphia area. This activity will be continued principally through the liaison and contractual arrangements between the Public Health Service and the Weather Bureau.

(*c*) *Planning, organizing, and initiating a comprehensive research effort in the serious and growing problems of air pollution associated with the oxides of sulfur.*—These forms of air pollutants arise principally from combustion of sulfur-containing fuels and from various industrial processes. While there are devices to control many air contaminants of the sulfur compound group from certain sources, a great deal of the total pollution cannot yet be effectively abated. Every indication is that, unless significant changes are made, emissions of oxides of sulfur will be much greater in the years ahead. On the basis of research findings on the potential biological and physiological effects of various forms of oxides of sulfur, this trend constitutes a definite and important health hazard.

In 1965, as a result of the special provisions of the Clean Air Act relating to the oxides of sulfur, emphasis will be placed on research on extraction of sulfur from fuel. This activity will include detailed evaluation, including the economic aspects of known methods for desulfurization of fuels, and also more basic investigations aimed at producing new concepts in desulfurization. The desulfurization studies will be conducted primarily through contracts with the Bureau of Mines and non-Federal research organizations.

(2) *Determination of the effects of air pollution*

(*a*) *Medical and biological studies.*—This activity involves investigating the health effects of air pollution by conducting laboratory and clinical studies on humans and experimental animals. Also included are studies concerned with the effects of air pollutants on agricultural products. The relationships uncovered thus far between air pollution and lung cancer, pulmonary emphysema, and a suffocating type of asthma, are serious enough to demand more detailed and intensive research and analysis.

With regard to the important area of air pollution from oxides of sulfur, available evidence confirms the critical need for intensified work in this area. Studies have shown that current American assumptions of tolerance levels for human exposures may be far too high; that sulfur dioxide in the atmosphere under certain conditions is transformed into sulfuric acid mists and other sulfur compounds; that sulfur oxides are absorbed onto aerosols, and that the resulting combination constitutes a vehicle for deep penetration into the human pulmonary system. A comprehensive program of research on the health effects from exposure to oxides of sulfur, singly and in combination with various particulates, will be initiated in 1965.

The provisions in the Clean Air Act on air quality criteria are based on the needs of States and communities for a sound technical basis upon which they can promulgate legally enforceable air quality standards. Such standards should be based on knowledge obtained from research on the effects of specific pollutants, and pollutants in combination, on the health of human beings, and on other effects relating to the public welfare. The most feasible way of accomplishing this is through intensification and adaptation of related studies already underway. We are initiating in 1964, a program for the development of such criteria. The 1965 program will include additional work, involving exposure of animals on a controlled dosage basis to a wide variety of commonly occurring pollutants, to determine threshold levels. It is expected that in 1965 work with humans, under carefully controlled clinical conditions, will be instituted.

Research on the effects of air pollutants on agriculture, in cooperation with the Department of Agriculture, will be generally continued at the 1964 level of approximately $130,000. Emphasis will be placed on elucidation of tolerance levels for plants, vegetation, and animals, in order to determine air quality criteria.

(*b*) *Community and other field studies.*—This activity covers those studies conducted in the field which are aimed at clarifying the effects of air pollution on humans. Also included are some studies of the effects on materials. Public Health Service research staff, combining the medical, statistical, engineering, and chemical competencies, conduct these studies in addition to work by universities and other groups under contract.

In 1965 increased emphasis will be placed principally in three areas of research: (*a*) the important role of the oxides of sulfur will be studied in community and field surveys; (*b*) the St. Louis-Philadelphia metropolitan area study mentioned above, which has been initiated as part of a long-range meteorological air pollution transport and diffusion study, will be augmented to include an epidemiological component; and (*c*) a statewide study is underway in Alabama, assessing the relationship of air pollution to the prevalence of pulmonary emphysema. The broad scope of this study has been made possible by the development, at the Medical College of Alabama, of a special detection device which can be administered by a technician. In 1965 the study will be accelerated to examine a greater number of individuals to determine, in those who have pulmonary disabilities, the relationship of their disabilities to their patterns of exposure to air pollution.

Epidemiological data developed through field investigations will supply information necessary to the development of sound air quality criteria. The data will be used in connection with the data being developed through clinical and other research studies by other research components.

Abatement activities

The Clean Air Act includes provision for Federal legal action in certain circumstances to require remedial steps. Section 5 of the Clean Air Act establishes procedures to be followed when Federal action to secure abatement is taken. The procedures are similar to those contained in the Federal Water Pollution Control Act. These procedures include a sequence of conferences, hearings, and if necessary, legal proceedings.

Abatement activities will involve technical, legal, and administrative aspects. A headquarters staff of 12 persons in the Public Health Service Division of Air Pollution will be required. Studies of uniform State and local laws, and compacts between States provided for in the act, will be undertaken. Surveys and studies of alleged sources of pollution will require the establishment of field teams of highly trained engineers, meteorologists, and other scientists and will involve the use of mobile equipment. The cost of each field investigation will be at least $50,000, with the average cost expected to be considerably higher. Field investigations are authorized when the Secretary is requested by a control agency to conduct them or when he determines that an air pollution problem of an interstate nature and of sufficiently serious proportions exist.

Section 7 of the Clean Air Act instructs Federal departments and agencies to cooperate with the Department of Health, Education, and Welfare in the prevention and control of air pollution discharged from buildings, installations, or other property under their jurisdiction. The act provides that before any matter is discharged into the air, plans and specifications must be submitted and a permit obtained for such discharge. Annual reports to Congress on the status of such permits and compliance therewith are required. The potential scope of the problem can be measured by the number of Federal facilities owned by the United States. As of June 30, 1962, the United States owned within the United States 14,899 installations and 421,727 buildings, and operated thousands more under lease.

A system of classification of the pollution potential of the installations must be developed if the permit system is to be realistic. Therefore, analyses and surveys of the facilities must be undertaken as a prelude to the establishment of a system of classes of pollution potential. Presumably, many Federal facilities will be exempted from the permit system on the basis of the analysis of pollution potential. In order to implement the provisions of this section, a staff is required for review and approval of applications for permits. Increased professional staff with supporting clerical personnel will be necessary in 1965.

The estimate includes four positions and $35,000 to be used in the Office of the Assistant Secretary to continue activities initiated in 1964 pertaining to the Department's responsibility under the provisions of the Clean Air Act. The Secretary has delegated to the Assistant Secretary responsibilities in air pollution similar to those he exercises in water pollution.

Technical services

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Technical assistance	54	$736,000	62	$920,000	+8	+$184,000
Review and approval:						
Research and training grants and fellowships	10	154,000	12	195,000	+2	+41,000
Survey, demonstration and control program grants	8	18,000	12	125,000	+4	+107,000
Committee on automotive vehicle and fuel pollution	2	15,000	3	35,000	+1	+20,000
Total	74	923,000	89	1,275,000	+15	+352,000

Technical assistance.—Air pollution engineers and other technical staff at the Taft Sanitary Engineering Center as well as staff in most of the Public Health Service regional offices, provide, upon request, short-term assistance and consultation to States, communities, and industries on air pollution problems. Because of the great demand for such technical services, only limited and selective assistance is currently provided. The budgetary increase requested for 1965 will permit assignment of air pollution engineering personnel to provide broader national coverage to those regional offices which do not presently have this staff. Communities will be assisted in methods and techniques for developing and conducting comprehensive air resources management programs. Technical consultation services requested as a result of the Clean Air Act, particularly in connection with the control program grants authorized by the act, will increase the workload and necessitate the assignment of additional personnel to the regions, and also require additional personnel at the Sanitary Engineering Center.

Review and approval of research and training grants and fellowships.—The administration of the review and approval functions associated with the expanded research grants, training grants, and fellowship program in 1965, including newly instituted management controls and procedures, will require added technical and administrative personnel, in order to conduct these functions properly.

Review and approval of survey, demonstration, and control program grants.—Grants to State and local air pollution control agencies will require a project-by-project review, in contrast to the method of awarding grants to States on a formula basis. Approximately 500 applications for survey and control program grants are anticipated in 1965. The estimates for the review and approval, or rejection, of these applications are based on the cost of a review staff.

Committee on automotive vehicle and fuel pollution.—The Clean Air Act provides for a technical committee on automotive vehicle and fuel pollution to evaluate progress, and to recommend research programs which will lead to the development of fuels and devices for the prevention and control of pollution discharge from automotive vehicle exhausts. To perform these activities, the committee will require the services of a small but highly qualified technical staff. The Department of Health, Education, and Welfare, in accordance with the act, must submit semiannual reports to Congress on measures taken to reduce vehicle exhaust pollution and to improve fuels. A staff of two professional persons and clerical support will be required for this function in 1965.

Training

This activity, based at the Robert A. Taft Sanitary Engineering Center in Cincinnati, Ohio, provides short-term technical training in all aspects of air pollution to personnel of State and local control agencies and of industry. In addition, field courses are presented around the country as a means of reaching a maximum number of trainees, especially those who cannot be sent to Cincinnati. This training is especially important in view of the very severe shortage of properly trained air pollution technical personnel in the country.

The request for 1965 will permit increased emphasis to be placed on field courses designed for personnel of air pollution control agencies, such as smoke inspectors, and for sanitarian-type personnel in State and local health departments which have air pollution control responsibilities. During 1964, the air pollution training program will provide 18 technical courses in Cincinnati, Ohio, and approximately 20 course presentations in the field. In 1965 it is estimated that 825 individuals will be trained as compared to 730 in 1964 and 658 in 1963. The requested increase will permit approximately 10 additional field presentations in 1965.

New positions requested, fiscal year 1965

	Grade	Annual salary
Research, training, and technical services:		
2 scientists	GS-15	$31,366
Chemist	GS-14	13,624
2 engineers	GS-14	27,248
3 chemists	GS-13	35,193
Economist	GS-13	11,731
Engineer	GS-13	11,731
3 chemists	GS-12	29,952
3 engineers	GS-12	29,952
2 public health program specialists	GS-12	19,968
Scientist	GS-12	9,984
Statistician	GS-12	9,984
3 chemists	GS-11	25,272
3 engineers	GS-11	25,272
Public health program specialist	GS-11	8,424
Scientist	GS-11	8,424
Administrative staff assistant	GS-9	7,030
2 chemists	GS-9	14,060
4 engineers	GS-9	28,120
3 public health program specialists	GS-9	21,090
2 scientists	GS-9	14,060
Chemist	GS-7	5,803
Engineer	GS-7	5,803
2 engineering assistants	GS-7	11,606
2 laboratory technicians	GS-7	11,606
Public health program specialist	GS-7	5,803
5 clerical assistants	GS-5	23,505
2 laboratory technicians	GS-5	9,402
3 research technicians	GS-5	14,103
7 clerical assistants	GS-4	29,554
Research technician	GS-4	4,222
6 clerical assistants	GS-3	23,340
Laboratory technician	GS-3	3,890
Research technician	GS-3	3,890
Commissioned officers:		
5 senior grades		41,100
Full grade		7,020
7 senior assistant grades		36,468
4 assistant grades		12,448
2 junior assistant grades		5,335
Total, new positions (92)		637,383

ENVIRONMENTAL ENGINEERING AND SANITATION

WITNESSES

WESLEY E. GILBERTSON, CHIEF, DIVISION OF ENVIRONMENTAL ENGINEERING AND FOOD PROTECTION
DR. ROBERT J. ANDERSON, CHIEF, BUREAU OF STATE SERVICES
PETER J. BERSANO, FINANCIAL MANAGEMENT OFFICER FOR ENVIRONMENTAL HEALTH PROGRAMS
DR. LUTHER L. TERRY, SURGEON GENERAL
HARRY L. DORAN, CHIEF FINANCE OFFICER
JAMES F. KELLY, DEPARTMENT BUDGET OFFICER

Object classification

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
PUBLIC HEALTH SERVICE			
11 Personnel compensation:			
Permanent positions	1,560	2,350	2,445
Positions other than permanent	45	36	36
Other personnel compensation	4	15	8
Total personnel compensation	1,609	2,400	2,489
12 Personnel benefits	277	386	392
21 Travel and transportation of persons	319	320	330
22 Transportation of things	43	43	44
23 Rent, communications, and utilities	75	77	82
24 Printing and reproduction	49	43	53
25 Other services	53	71	126
Services of other agencies	2	2	2
Research contracts	44	50	50
Payment to—			
Bureau of State Services management fund	381	403	403
National Institutes of Health management fund	56	66	65
26 Supplies and materials	155	114	118
31 Equipment	521	64	69
32 Lands and structures	134	15	15
41 Grants, subsidies, and contributions	3,979	5,020	4,977
Total, Public Health Service	7,697	9,074	9,215
ALLOCATION TO GENERAL SERVICES ADMINISTRATION			
21 Travel and transportation of persons	1		
25 Other services	19	13	
Total, General Services Administration	20	13	
Total obligations	7,716	9,087	9,215

Personnel summary

	1963 actual	1964 estimate	1965 estimate
Total number of permanent positions	345	358	363
Full-time equivalent of other positions	7	6	6
Average number of all employees	246	340	344
Employees in permanent positions, end of year	264	358	361
Employees in other positions, end of year	31	10	10
Average GS grade	7.2	7.3	7.3
Average GS salary	$6,573	$6,984	$6,994
Average salary of ungraded positions	$5,297	$5,297	$5,297

Program and financing

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
Program by activities:			
1. Research grants	3.979	5,020	4,977
2. Research, training, and technical services	4.554	4,067	4,238
Total program costs, funded [1]	8,533	9,087	9,215
Change in selected resources [2]	−816		
Total obligations	7,716	9,087	9,215
Financing:			
Comparative transfers to and from other accounts	761	−4	
Unobligated balance lapsing	53		
New obligational authority	8,530	9,083	9,215
New obligational authority:			
Appropriation	8,536	9,009	9,215
Transferred to "Operating expenses, Public Buildings Service." General Services Administration (76 Stat. 728)	−6		
Appropriation (adjusted)	8,530	9,009	9,215
Proposed transfer from "National Heart Institute." due to Uniformed Services Pay Act of 1963		74	

[1] Includes capital outlay as follows: 1963, $1.537,000; 1964, $690,000; 1965, $105,000.

[2] Selected resources as of June 30 are as follows: Unpaid undelivered orders, 1962, $1,646,000 (1963 adjustments −$17.000); 1963, $813,000; 1964, $813,000; 1965, $813,000.

Mr. FOGARTY. Do you have a statement, Mr. Gilbertson?

GENERAL STATEMENT

Mr. GILBERTSON. Mr. Chairman. I have a statement which I will supply and will summarize this briefly if you wish.

I appreciate this opportunity to present very briefly for your consideration the Public Health Service activities in the Division of Environmental Engineering and Food Protection which are supported through this appropriation. The central purposes of the program are: Conduct of Federal responsibilities to enable communities to meet their growing problems of environmental sanitation; and discharge of direct regulatory functions relating to supply of food and drinking water and disposal of sewage for interstate carriers. Both of these objectives have many functions in common.

First, if I may, to report briefly on recent progress:

The Gulf Coast Shellfish Sanitation Research Center is now in operation. Activities at the Northeast Shellfish Sanitation Research Center are being initiated as the building becomes ready for occupancy. These Centers are equipped for research studies in chemistry, bacteriology, and related marine sciences. Research on contamination due to viruses and radioactive substances will also be undertaken. These Centers are also a valuable resource for technical assistance and consultation to the States and the shellfish industry.

The appropriation for 1964 provided for studies to obtain more precise information on the health effects of trace elements and organic chemicals in drinking water. A new Advisory Committee on the Use of the 1962 PHS Drinking Water Standards is providing useful recommendations concerning day-to-day operational practices for achieving the higher quality prescribed in the new standards.

Recent outbreaks of botulism emphasize the continued presence of this health hazard. The National Symposium on Botulism held in January under our sponsorship provided an opportunity for food industry personnel, researchers, and representatives of Federal, State, and local governments to obtain the latest information concerning the disease and problems of prevention and control.

Our research grants program continues to provide support for needed studies in such vital areas as chemical contaminants of food and water, hazardous byproducts of technology and environmental engineering problems, and metropolitan planning and development and housing hygiene.

The funds requested for 1965 in the amount of $9,215,000, provide an increase of $127,000 for expansion of our training activities. Through training courses, new research developments and new environmental health methods are promptly made available for use by personnel of State and local health agencies, universities, industry, and other Federal agencies. The 1965 increase will permit additional training courses needed to assure public health consumer protection in a modern urbanized society. Special attention will be focused on adaptation of new training methods, such as programed instruction, the upgrading of laboratory competence in the key areas of food analysis for radioactive and pesticide contamination, for toxins produced by staphylococcus and botulism organisms, and on solid waste engineering. Other program operations within our area of responsibility will be continued at the 1964 level.

Mr. Chairman, I shall be glad to answer any questions your committee may have.

TRAINING ACTIVITIES

Mr. Fogarty. All right. The appropriation for 1964 is $9,009,000 and the request for 1965 is $9,215,000, an increase of $206,000 and five positions. The only program increase is for training activities. Tell us why you feel this is necessary.

Mr. Gilbertson. Mr. Chairman, the situation in training is very important because this deals with personnel. Personnel, of course, are a vital commodity in the public health program. There are some 20,000 workers in the environmental health field—the general areas, and normally we would expect perhaps something in the neighborhood of 7,000 to 8,000 people would require training each year. Now, of course, through this particular increase it is not intended that we train all of these people, but we do feel that moving ahead in some of the key areas is extremely important, and so we have given emphasis this year to the matter of training.

RESEARCH GRANTS

Mr. Fogarty. The table on page 53 shows that you plan to support the same total number of research grants in 1965 as 1964, but you certainly are cutting back on new projects—from 57 to 34; is that right?

Mr. Gilbertson. Well, sir, the number of wholly new grants would be reduced, I believe, by an estimated 23.

Mr. Fogarty. Well, that is what I said.

Mr. Gilbertson. Yes, sir.

Mr. FOGARTY. That is about a 40 percent cut, is that right, in new grants?

Mr. GILBERTSON. Yes, sir.

Mr. FOGARTY. Are you doing like the community health people and phasing out this part of your program?

Mr. GILBERTSON. No, sir. Of course, this number of 23 is offset, to some extent at least, by the fact that there will be an increase in the number of noncompeting continuations from 1964.

Mr. FOGARTY. How many approvable applications do you expect to have next year?

Mr. GILBERTSON. Well, our total number of applications we believe will run somewhere in the same vicinity of what we had this year. Of course, this is an estimate, and you cannot tell exactly but it looks like it will be at least the same number.

Mr. BERSANO. We estimate to have about 323 approved applications in 1965.

Mr. FOGARTY. How many are you going to be able to finance?

Mr. BERSANO. 238.

FOOD SERVED ON INTERSTATE CARRIERS

Mr. FOGARTY. Are you satisfied with the food being served on interstate carriers? I have asked this question about 40 times the last 10 years. Every time that I ride in a train from Providence to Washington, it seems to get worse. I used to think that the airlines did a real good job; it seems to me they have gone the way of the railroads in their food service.

Mr. GILBERTSON. We are not entirely satisfied with it, sir.

Mr. FOGARTY. What are you going to do about it?

Mr. GILBERTSON. Well, we are doing a number of things. We have instituted a grading program on the dining cars.

Mr. FOGARTY. Could you establish rating system and put something in the car so that the passengers could see whether it is first class, second class, or third class.

Mr. GILBERTSON. Yes, sir. Actually, the grading program is somewhat along that line. Out of a total number of cars last year that were inspected, somewhere around 1,000, I think some 30 or 40 of them were given grade C, which is a public notification of deficiencies and defects aboard.

Mr. FOGARTY. What happens when they get a grade C? What do they do?

Mr. GILBERTSON. Well, of course we follow up on this, and they follow up on it. They are asked to correct the deficiencies.

Mr. FOGARTY. What about the airlines? They are not quite as bad but they are slipping.

Mr. GILBERTSON. We have, during the past year, decertified or advised the carriers not to use certain caterers. They have been prohibited from use. Other caterers, I think in all fairness, have done a pretty good job and made some remarkable improvements. With the resources that you have provided through the actions of this committee, we have instituted a more rigorous program and I believe we are getting some response to it.

INTERSTATE MILK SHIPPERS

Mr. **Fogarty**. I notice at the bottom of page 60 you say your activities regarding interstate milk shippers is approximately 75 percent of the desired level. Would you explain this?

Mr. **Gilbertson**. Yes, sir. The milk certification program, of course, has been growing considerably over the years. The number of States participating has gone up, the number of shippers has gone up; and therefore, under the Federal-State agreement, whereby we agree to spot check the State programs and certify shippers to the other States, our workload has been going up.

BOTULISM

Mr. **Fogarty**. Are you carrying on any activities with regard to botulism?

Mr. **Gilbertson**. During the current year we are carrying on——

Mr. **Fogarty**. Put that in the record, will you?

Mr. **Gilbertson**. Yes, sir.

(The material referred to is as follows:)

Activities Relating to Prevention of Botulism

Division of Environmental Engineering and Food Protection

The toxins produced by the six types of clostridium botulinum are among the most lethal materials known to man. In the past, types A and B have most often caused foodborne outbreaks generally associated with home canned foods. Types A and B were once commonly associated with commercially canned foods; however, the application of time-temperature research findings has enabled commercial processors to prepare foods that are quite free of these organisms.

Food poisoning due to type E botulism has most commonly been associated with fishery products. The three outbreaks in the last 3 years have been traced to commercially prepared fishery products. The most recent outbreak, which caused 17 cases with 7 deaths, is not only of great concern to public health authorities, but to the fishing industry due to loss of public confidence in fish as a safe food item.

For several years leading food microbiologists have warned that hazards of botulism and other kinds of food poisoning are associated with new developments in the technology of processing, packaging, and distribution of nonsterile convenience foods. However, neither the food industries nor the responsible Government agencies have undertaken to date the research necessary to evaluate such health hazards or to formulate effective measures for consumer protection.

Prevention of type E botulism from smoked fish and other vulnerable foods is hampered by inadequate information on the ecology and natural distribution of the organism. Limited studies have established that the organism is a part of the normal soil flora in certain areas. There is evidence that it also occurs in the marine environment, in bottom sediments, and may therefore be present in fish taken from these areas. Development of control measures is hampered by the lack of information concerning the sources of this organism in food products—whether from soil, the aquatic environment, food processing and packaging operations, or some combination of these possibilities.

Increased emphasis on botulism prevention is needed through development of practical food protection, improvement of laboratory methodology, conduct of laboratory training courses and field studies in problem areas. Specific information is not available on the (1) ecological relationship and natural distribution of C. botulism with special reference to type E in fishery products; (2) relationship of growth and toxin production of C. botulism in potentially hazardous foods to the methods of packaging, storage, and final preparation. These are examples of research studies that should be undertaken. Field studies are needed to gather technical information and data on the processing practices employed in the smoked fish industry and the relationship of such practices to the entry, development and toxin production of C. botulinum in smoked fishery products.

Because of the urgency of the problem, the Division of Environmental Engineering and Food Protection within its food protection program has initiated some research and training efforts in botulism prevention.

A national symposium on botulism was recently held with 300 experts from research institutions, State and Federal agencies and representatives from industry participating. The symposium provided an opportunity for research investigators to review what is known, what control measures have been developed, and what the most critical research needs may be to provide a basis for early and effective protective measures against botulism.

Following the symposium, a 5-day training course in laboratory methods was conducted at the Sanitary Engineering Center.

Currently, the equivalent of one researcher is devoted to developing improved laboratory methods for detecting botulism organisms and toxin. Publication of a monograph, "Examination of Foods for Enteropathogenic and Indicator Organisms" will be expedited in order to make available at the earliest possible date present methodology for the detection and identification of this and related organisms in food. Several emergency field visits have been made to commercial food plants to evaluate the potential for instituting safer practices. Discussions have been initiated with other Federal agencies and industry organizations toward the objective of exchange of technical information and coordination of research.

Dr. TERRY. Mr. Chairman, since this has been an unexpectedly serious public health problem during the last year I would like to speak to it brifly.

Mr. FOGARTY. Go right ahead.

Dr. TERRY. Forty-six cases, fourteen of them fatal, of botulinus poisoning occurred in 1963, the highest number in this country in 24 years. Of very serious concern is the fact that 24 of these cases (9 fatal) were associated with commercially canned or preserved products. Although 51 outbreaks related to commercial products have been known to occur in the United States since 1899, only 2 had occurred in the past 21 years until the 4 in 1963 which resulted in the 24 cases.

Twenty-two of the twenty-four cases from commercial products were caused by type E botulism and were from fish products. Type E botulism had previously caused only 36 known cases in history in the United States. In contrast to other types of botulism, it appears to be associated with fish and fish products most commonly. Unfortunately, this type is not understood and its ecology is unknown. Thus, means of preventing its introduction into food prducts are not well developed.

In recognition of this increasing problem, the Public Health Service has undertaken a series of steps to provide protection to the public, to study means of prevention, and to assist the industry. A quantity of antiserum was produced for laboratory use for identification. Special projects were begun to attempt to provide rapid means of identification of the organism, using techniques such as fluorescent antibodies. Limited studies were undertaken on the nature of certain botulinus organisms, including nutritional requirements. We have been working closely with the Army, which has produced polyvalent toxoid. This toxoid can prevent cases from occurring in laboratory workers and others frequently exposed to the toxin, and is being made available by the Public Health Service as appropriate.

Because type E has been an infrequent organism, until now, only very limited supplies of antitoxin were available in this country. Through foreign suppliers, a small quantity has been obtained and is available through the epidemic aid program of the Communicable Disease Center. CDC now has on hand antitoxin enough for 10 persons, and is trying to get more from Denmark. Other potential sources are France, Japan, and Russia. CDC is in process of signing a contract with Connaught Laboratories for additional antitoxin. Production will take 12 months or more; but will provide enough for several hundred patients.

Research on the mechanism of toxin action on the nerve is being supported by the National Institute of Neurological Diseases and Blindness.

The Public Health Service, in an attempt to assemble quickly all available knowledge and to disseminate it to State and local health workers, sponsored a symposium at Cincinnati on January 13, 1964, and held a training course immediately thereafter. We anticipate further training courses for laboratory personnel in the near future. A monograph on identification of this and other organisms in food is being rushed to completion. In addition we are providing technical assistance to States and industry in evaluating practices in food processing plants and carryingout laboratory examination of processed food.

In all, the Service has expended approximately $90,000 during fiscal year 1964 in its botulism activities. About $40,000 has been in the programs of the Communicable Disease Center, with epidemic aid provided five times this year, stepped up production of diagnostic antisera, and stockpiling of antitoxin for emergency purposes. The Division of Environmental Engineering and Food Protection has spent approximately $50,000, almost one-half in supporting the symposium and establishing training activities.

We intend to continue to strengthen these activities this year within the limits of our authorities and appropriations. We hope to have adequate and safe antitoxin available to doctors and hospitals for treatment of cases and to provide the means and methods for early diagnosis. It is anticipated that these activity levels will be approximately the same in fiscal year 1965 with a stepped-up training program, additional emphasis on methods of rapid identification and diagnosis, and evaluation of treatment methods.

Mr. FOGARTY. Thank you Dr. Terry.

Is there anything else you would like to say, Mr. Gilbertson?

Mr. GILBERTSON. No, sir.

Mr. FOGARTY. Thank you very much, gentlemen. We will adjourn until tomorrow morning.

JUSTIFICATION MATERIAL

(Following is the justification material submitted to the committee:)

ENVIRONMENTAL ENGINEERING AND SANITATION

Amounts available for obligation

	1964	1965
Appropriation	$9,009,000	$9,215,000
Proposed transfer from "National Heart Institute" due to increased cost of Uniformed Services Pay Act of 1963	74,000	
Comparative transfer from "Salaries and expenses, Office of the Surgeon General"	18,000	
Comparative transfer to "Environmental health sciences"	−14,000	
Total	9,087,000	9,215,000

Obligations by activity

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Research grants	--------	$5,020,000	--------	$4,977,000	--------	−$43,000
Research, training, and technical services	358	4,067,000	363	4,238,000	+5	+171,000
Research	169	1,864,000	169	1,877,000	--------	+13,000
Training	14	194,000	19	321,000	+5	+127,000
Application of health knowledge-consumer protection	61	752,000	61	766,000	--------	+14,000
Interstate regulatory and certification activities	114	1,257,000	114	1,274,000	--------	+17,000
Total obligations	358	9,087,000	363	9,215,000	+5	+128,000

Obligations by object

	1964 estimate	1965 estimate	Increase (+) or decrease (−)
Total number of permanent positions	358	363	+5
Full-time equivalent of all other positions	6	6	--------------
Average number of all employees	340	344	+4
Number of employees at end of year:			
Permanent positions	358	361	+3
Other	10	10	--------------
11 Personnel compensation:			
Permanent positions	$2,349,500	$2,444,800	+$95,300
Positions other than permanent	36,200	36,200	--------------
Other personnel compensation	14,600	7,800	−6,800
Total, personnel compensation	2,400,300	2,488,800	+88,500
12 Personnel benefits	386,200	392,300	+6,100
21 Travel and transportation of persons	320,000	330,000	+10,000
22 Transportation of things	42,700	43,700	+1,000
23 Rent, communications, and utilities	77,100	81,500	+4,400
24 Printing and reproduction	43,100	53,100	+10,000
25 Other services	83,700	125,800	+42,100
Services of other agencies	2,000	2,000	--------------
Research contracts	50,000	50,000	--------------
Payment to:			
Bureau of State Services management fund	403,100	403,000	−100
National Institutes of Health management fund	66,000	65,000	−1,000
26 Supplies and materials	113,500	118,500	+5,000
31 Equipment	64,300	69,300	+5,000
32 Lands and structures	15,000	15,000	--------------
41 Grants, subsidies, and contributions	5,020,000	4,977,000	−43,000
Total, obligations by object	9,087,000	9,215,000	+128,000

Summary of changes

1964 enacted appropriation	$9, 009, 000
Proposed transfer from "National Heart Institute" due to Uniformed Services Pay Act of 1963	74, 000
Comparative transfer from "Salaries and expenses, Office of the Surgeon General"	18, 000
Comparative transfer to "Environmental health sciences"	—14, 000
Total estimated obligations, 1964	9, 087, 000
1965 estimated obligations	9, 215, 000
Total change	+128, 000
INCREASES	
"Built-in":	
1. Annualization of step 2 of the civil service pay increase	36, 800
2. Annualization of increased cost of Uniformed Services Pay Act of 1963	25, 000
3. Annualization of 11 new positions authorized in 1964	5, 900
Subtotal, "built-in" increases	67, 700
Program Increases: Expanded training activities (5 positions)	127, 000
Gross increases	194, 700
DECREASES	
Nonrecurring construction costs for 2 shellfish sanitation research centers	—12, 900
Nonrecurring requirements for equipment	—4, 000
1 less day of pay (262 days in 1964; 261 days in 1965)	—6, 800
Decrease in research grants	—43, 000
Subtotal, decreases	—66, 700
Total net change requested	128, 000

EXPLANATION OF CHANGES

Training

An increase of five positions and $127,000 is requested to provide funds for conducting training courses at field locations and to develop new training methods.

Decreases

The decrease of $66,700 represents nonrecurring construction for the two shellfish sanitation research centers, nonrecurring equipment costs related to new positions authorized in 1964, 1 less day of pay in 1965, and a decrease in research grants.

Explanation of transfers

	1964 estimate	1965 estimate	Purpose
Comparative transfer to "Environmental health sciences."	$14,000	----------	To exclude from this appropriation funds for the grant review and approval activity in the Office of Resources Development, Environmental Health, previously budgeted in the Bureau of State Services management fund.
Comparative transfer from "Salaries and expenses, Office of the Surgeon General."	18,000	----------	For decentralization of costs for accounting services provided in the Washington area.
Transfer from "National Heart Institute."	74,000	----------	Proposed transfer of funds to cover increased pay costs due to Public Law 88-132.

Environmental engineering and sanitation

	Budget estimate to Congress	House allowance	Senate allowance	Appropriation
1962	$5,604,000	$7,424,000	$7,424,000	$7,424,000
1963	7,502,000	7,502,000	8,536,000	8,536,000
1964	9,079,000	9,009,000	9,009,000	9,009,000
1965	9,215,000			

Research grants

	1964 estimate		1965 estimate		Increase (+) or decrease (—)	
	Number	Amount	Number	Amount	Number	Amount
1. Noncompeting continuations	150	$2,926,000	173	$3,487,000	+23	+$561,000
2. Competing continuations	31	546,000	31	546,000		
3. Supplements	(15)	100,000	(15)	100,000		
4. Wholly new grants	57	1,242,000	34	570,000	−23	−672,000
5. Additional indirect costs:						
(*a*) To 20 percent [1]		206,000		204,000		−2,000
(*b*) To 25 percent [2]				70,000		+70,000
Total	238	5,020,000	238	4,977,000		−43,000

[1] Relates to all grants approved for support in these years.

[2] Relates to proposed increase in indirect cost rate to 25 percent for grants awarded on or after Jan. 1, 1965.

The diverse nature of the Division's responsibilities in public health aspects of our milk and food supply, including land and marine sources, and in environmental engineering which encompasses interstate carrier sanitation, metropolitan planning and health aspects of housing, disposal of human, animal, and industrial solid wastes, institutional and recreational sanitation, entails a problem-solving research program of equal variety in scope. The research grants program encourages and supports studies in the areas of the Division's interest through the capabilities of universities and nonprofit institutions.

Currently, research is being conducted on various factors of our milk and food supply. Studies on bovine mastitis, a disease entity which is a source of hazardous microbial contamination of one of our most important foods, are in progress to elucidate the complex nature of the problem and to aid in its ultimate reduction and control. Investigators are working on projects to uncover basic information on the cause of toxicity in shellfish and the interpretation of bacteriological findings by new techniques.

In the engineering area, investigations are underway on such problems as (1) the application of computer techniques to such urban problems as solid waste collection and disposal; (2) water reuse in food canning operations; (3) compatibility of chemicals used for algae control in swimming pools with those used for destruction of bacteria; (4) studies of virus contamination of foods; and (5) sanitation of freeze-dried foods.

It is proposed to emphasize research in four major areas: (1) chemical contaminants of food and water, food additives, and deleterious byproducts of technology; (2) environmental engineering problems including new approaches to collection and disposal of solid wastes, institutional and recreational sanitation problems, metropolitan planning and development, and housing; (3) studies of inshore and estuarine waters as they affect the wholesomeness and safety of shellfish; (4) microbiology, including mycology and virology, of foods with reference to better methods for recovery and better bases for assessment of microbiological hazards.

The amount requested for 1965 will fund the same number of projects as in 1964.

Research, training, and technical services

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	358	$2,786,500	363	$2,881,100	+5	+$94,600
Other expenses		1,280,500		1,356,900		+76,400
Total	358	[1] 4,067,000	363	4,238,000	+5	+171,000

Summary of program

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Research	169	$1,864,000	169	$1,877,000		+$13,000
Training	14	194,000	19	321,000	+5	+127,000
Application of health knowledge-consumer protection	61	752,000	61	766,000		+14,000
Interstate regulatory and certification activities	114	1,257,000	114	1,274,000		+17,000
Total	358	[1] 4,067,000	363	4,238,000	+5	+171,000

[1] Includes $12,900 allocated to General Services Administration for supervision of construction of the Shellfish Sanitation Research Centers.

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Research	169	$1,864,000	169	$1,877,000		+$13,000

The largest continuing programs of intramural research are concerned with maintaining milk, food, and shellfish free from disease-producing contaminants.

Milk and food sanitation.—The milk and food research program which will continue at the 1964 level provides factual evidence on contamination of milk and milk products with disease-producing micro-organisms or toxic chemicals and develops improved methods for the prevention and control of these health hazards; provides data on the operating characteristics of thermal processing equipment and controls used for the pasteurization of milk and milk products, and determines factors which will strengthen public health protection against microbial and toxic contamination of perishable foods, with special emphasis on improving sanitation practices in establishments which process, distribute, prepare, and serve food.

Continuing studies will include the following specific projects:

1. Development of bacteriological procedures to better correlate laboratory tests with farm and plant inspection findings.
2. Conduct of the milk laboratory survey program in support of the milk shippers certification program.
3. Conduct of heat and mass transfer analyses on a plate-type heat exchanger in order to identify the precise thermal history of milk and milk products processed by this equipment.
4. Investigation of the ecological relationships affecting the entry, survival, and growth of pathogenic micro-organisms in potentially hazardous foods under conditions simulating those encountered in practice.

5. Development of analytical procedures by which toxins and hazardous chemicals, including pesticides, may be detected in foods.

6. Evaluation of microbiological methods for the examination of foods.

Shellfish sanitation.—The objective of shellfish sanitation research is to develop technical information necessary to insure an operational cooperative program for the certification of interstate shellfish shippers effective in terms of present needs and, to the extent possible, to meet the technical problems of the immediate future. The research involves three principal technical areas: (1) sources of contamination of estuarine areas as they relate to the suitability of shellfish as a human food; (2) the marine environment and its influence on the sanitary quality of shellfish; and (3) food science technology as applied to the production of shellfish of a satisfactory sanitary quality.

Studies of sources of contamination will be directed toward the development of methodology for the determination of contaminants (bacteriological, chemical, and radiological) and the investigation of those aspects of water pollution control technology directly applicable to the safe production of raw shellfish products from estuarine waters. Specific projects will be directed toward a study of the effectiveness of sewage chlorination as applied in estuarine areas; classification and qualification of indexes of pollution for use in assessing the sanitary quality of shellfish growing areas; specific indexes of human and animal pollution; and the significance of pathogenic fecal bacteria as an indicator of pollution.

Studies related to the marine environment include ecological aspects and methods for evaluation of environmental effects. Specific projects will be directed toward the ecology of paralytic shellfish poison in eastern Maine; broad spectrum antibiotics and antiviral agents in shellfish; public health aspects, including parasitology of the fresh water clam resources of the St. Lawrence River; insecticide levels of Rhode Island clams from areas subject to pesticide contamination from mosquito control operations; the development of analytical methods for determining chemical contaminants in shellfish; and survival of viruses in sea water and their presence in shellfish.

In food science studies, emphasis will be placed on the development of effective depuration methods for all important shellfish species. In addition, projects will be undertaken on the presence and significance of toxin-producing bacteria in shellfish and shellfish products; on the development of bacteriological criteria for soft clams produced in Chesapeake Bay; and the effect of storage time and temperature on the sanitary quality of various shellfish species as they reach market areas.

Research projects will be undertaken at the Northeast Research Center (Kingston, R.I.), at the Gulf Coast Research Center (Dauphin Island, Ala.), and to a limited extent at the Shellfish Sanitation Laboratory (Purdy, Wash.). Studies in the Northeast Research Center will be directed toward those commercially important species of shellfish found in the areas from Maine to North Carolina and include eastern oysters, hard clams, soft clams, and surf clams, with due recognition being given to the great climatic and species variations which occur within this area. Many of the projects will be undertaken in cooperation with a State agency. Studies to be undertaken at the Gulf Coast Research Center will be concentrated on the oyster species indigenous to the Gulf of Mexico, the hard clam found in large quantities in certain areas of Florida, and the eastern oyster grown in the tidal flats of South Carolina and Georgia.

Research contracts will be utilized to a limited extent, e.g., to support studies on the ecology of paralytic shellfish poison in Alaska and on the depuration of clams in Maine.

Drinking water.—Research will be continued on the health impact of trace elements in drinking water in order to provide a basis for standards which will be incorporated in the Public Health Service "drinking water standards."

Review and approval of grants.—This subactivity provides the management services for the research grants program. The 1964 level of eight positions and $162,000 will continue in 1965.

The increase of $13,000 for research in 1965 provides the additional costs due to increased pay costs.

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Training	14	$194,000	19	$321,000	+5	+$127,000

One of the important aspects of Federal leadership is the conduct of short-term training courses, which help to meet the heavy needs for updating, orientation, and professional development of environmental health workers' in State and local agencies.

The Division conducts training activities at the Robert A. Taft Sanitary Engineering Center and at field locations. Professional personnel of Federal, State, and local agencies are given opportunities to acquire the latest knowledge and skills developed through Public Health Service-sponsored research. Personnel attending training courses are often selected for their ability to, in turn, present the new knowledge and skills to others, thus multiplying the benefit of Federal effort many times. In 1963, training was provided to 467 persons. The 1964 program provides for training 500 persons in 23 courses: 11 in milk and food sanitation, 10 in metropolitan planning, and 2 in shellfish sanitation.

The 1965 estimate provides an increase of $127,000 to initiate and expand specialized training for which the Division of Environmental Engineerng and Food Protection is responsible. State and local agencies express the need for more training programs and at convenient field locations. Development of new teaching methods and additional topical training, particularly at field locations, will be undertaken to meet the most urgent needs of the Federal, State, and local health agencies in these facets of environmental health.

Efforts to expand field-training capacity will include contracts for development of programed instruction techniques and materials—progressive question-answer learning devices—for application to basic milk sanitation, basic food protection, sanitary surveys, and protection and surveillance of shellfish-growing areas. Use of this new technique, along with expanded classroom training, will result in providing training to nearly double the number trained in 1964.

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Application of health knowledge-consumer protection	61	$752,000	61	$766.000	--------	+$14,000

More effective utilization of available health information is needed to provide the consumer with improved health protection from new and exotic stresses in his physical environment and an increased return on his continuing investment in health protection. Research must be translated into working programs which meet the dynamic changing problems of environmental stress created by technological change, population explosion, and increased density within urban and metropolitan areas; accentuated by the interaction of these factors.

This program encompasses a broad spectrum of environmental health activities including milk, food, shellfish, drinking water supply, solid waste disposal, private water supply and sewage disposal systems, urban planning for environmental health, and the control of environmental sanitation on interstate carriers—airlines, vessels, railroads, and buses, and general community sanitation including recreational areas. Their relative adequacy has an important bearing on the day-to-day effectiveness of State and local programs.

The methods required to attain specific objectives vary widely. Standards-setting activities range from the development of specific standards by the

Division, with the help and assistance of advisory bodies—to cooperation with recognized national groups in the establishment of criteria. The Division has prime responsibility for the Public Health Service drinking water standards, manual of individual water supply systems, environmental engineering in the school, milk ordinance and code, and the food service sanitation manual. Standards on swimming pools and others were developed jointly with national health and industry groups.

In milk and food sanitation, the primary effort will be directed toward meeting the field needs in application of the criteria in the food service sanitation manual. It is planned to start preliminary work on a protocol for followup of outbreaks of food poisoning and infection; a much needed activity which has been urgently recommended to us by the food protection task group and the conference on viruses and rickettsia in foods. Current levels of milk sanitation technical assistance and consultation will be maintained. Limited asistance will be provided to States in the establishment of bovine mastitis control programs to protect against diseases in man.

The shellfish sanitation research program will emphasize field activities, and in addition, will sponsor a series of regional shellfish sanitation research conferences and a national shellfish sanitation workshop. The latter meeting will be attended by representatives of the State health and conservation agencies, the shellfish industry, other Federal agencies, and the Governments of Canada, Japan, and Mexico.

Collaborative relationships with national organizations in strengthening technical assistance efforts on solid waste engineering will be continued. This latter activity is directed primarily to setting of standards and dissemination of a national scale of information needed to improve grossly inadequate refuse disposal practices.

The Public Health Service is uniquely qualified to carry out national activities in environmental health planning. Appropriate liaison is maintained with various professional and technical organizations and with other agencies. The Division's environmental health planning for metropolitan areas activities will continue at the 1964 level.

The increase of $14,000 for application of health knowledge provides for the additional costs due to increased pay costs.

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Interstate regulatory and certification programs	114	$1,257,000	114	$1,274,000		+$17,000

Under the Public Health Service Act and the interstate quarantine regulations, the Division conducts inspections and surveillance of the water and food served aboard interstate public conveyances (airplanes, vessels, railway conveyances, buses) together with review and approvals of the environmental engineering aspects of the design, construction, and operation of such facilities.

The Public Health Service must certify as to the safety and purity of some 850 municipal water supplies used by interstate carriers. Joint inspections of these water supplies in cooperation with State health agencies are conducted only once in 6 years. Other regulatory activities, including the inspection of conveyances and certification of sources of milk and food products for use on carriers, will also be maintained at the minimum surveillance level.

Further health protection through prevention of interstate spread of disease is provided by this program of certification of interstate shipments of milk and of shellfish. The milk certification program has grown sixfold in the past 10 years and now includes approximately 950 interstate milk shippers in 43 States, shipping milk from 136,000 farms. The program requires the Public Health Service to develop standards used to certify as to the sanitary quality of the milk shipped interstate by the milk shippers participating in the program and to evaluate and approve over 600 testing laboratories. The Division is also required to standardize and certify State rating officers. Due to program growth, we continue to conduct evaluations of State and local programs and spot checks of interstate milk shippers at approximately 75 percent of the desired level.

The shellfish certification activity now includes approximately 1,076 shippers located in 22 States, 5 Canadian Provinces, and Japan. All 50 States participate in varying degrees, using the program either for supervision of sanitary growing, harvesting, and/or packing, or for reliable information on sources of shellfish of acceptable quality. The cooperative program requires continuous Public Health Service evaluation and endorsement of each of the State programs, and the development of uniform standards. In addition to the domestic operation, the certification program has been extended through international agreement to Canada and Japan. Agreements with these two countries provide for joint inspections and certification that shellfish shipped into the United States are produced under sanitary controls equal to those of the States.

The increase of $17,000 for this subactivity covers annualization of the 1964 increase and the amount required for increased pay costs.

New positions requested, fiscal year 1965

	Grade	Annual salary
Research, training, and technical services:		
Scientist	GS-14	$13,624
Public health program specialist	GS-9	7,030
Program publication specialist	GS-7	5,803
Clerical assistant	GS-3	3,890
Commissioned officers: Senior grade		7,800
Total new positions, all activities (5)		38,147

THURSDAY, FEBRUARY 20, 1964.

OCCUPATIONAL HEALTH

WITNESSES

DR. HARRY HEIMANN, CHIEF, DIVISION OF OCCUPATIONAL HEALTH

DR. MURRAY C. BROWN, DEPUTY CHIEF, DIVISION OF OCCUPATIONAL HEALTH

DR. ROBERT J. ANDERSON, CHIEF, BUREAU OF STATE SERVICES

PETER J. BERSANO, FINANCIAL MANAGEMENT OFFICER FOR ENVIRONMENTAL HEALTH PROGRAMS

DR. LUTHER L. TERRY, SURGEON GENERAL

HARRY L. DORAN, CHIEF FINANCE OFFICER

JAMES F. KELLY, DEPARTMENT BUDGET OFFICER

Object classification

[In thousands of dollars]

		1963 actual	1964 estimate	1965 estimate
11	Personnel compensation:			
	Permanent positions	1,271	1,520	1,637
	Positions other than permanent	28	40	40
	Other personnel compensation	5	13	11
	Total personnel compensation	1,304	1,573	1,688
12	Personnel benefits	160	190	203
21	Travel and transportation of persons	204	235	231
22	Transportation of things	20	24	16
23	Rent, communications, and utilities	50	46	53
24	Printing and reproduction	19	31	31
25	Other services	164	48	49
	Research contracts	108	337	300
	Services of other agencies	21	20	20
	Payment to—			
	Bureau of State Services management fund	108	114	114
	National Institutes of Health management fund	18	29	30
26	Supplies and materials	82	81	83
31	Equipment	89	116	60
32	Lands and structures	1		
41	Grants, subsidies, and contributions	1,747	2,197	2,337
	Total obligations	4,095	5,042	5,215

Personnel summary

	1963 actual	1964 estimate	1965 estimate
Total number of permanent positions	194	228	228
Full-time equivalent of other positions	6	7	7
Average number of all employees	177	203	216
Employees in permanent positions, end of year	191	228	227
Employees in other positions, end of year	1	3	7
Average GS grade	7.5	7.5	7.5
Average GS salary	$7,357	$7,433	$7,433

Program and financing

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
Program by activities:			
1. Research grants	1,747	2,197	2,337
2. Research, training, and technical services	2,357	2,845	2,878
Total program costs, funded [1]	4,104	5,042	5,215
Change in selected resources [2]	−9		
Total obligations	4,095	5,042	5,215
Financing:			
Comparative transfers to and from other accounts	2	−3	
Unobligated balance lapsing	24		
New obligational authority	4,121	5,039	5,215
New obligational authority:			
Appropriation	4,122	4,990	5,215
Transferred to "Operating expenses, Public Buildings Service," General Services Administration (76 Stat. 728)	−1		
Appropriation (adjusted)	4,121	4,990	5,215
Proposed transfer from "National Heart Institute" due to Uniformed Services Pay Act of 1963		49	

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[1] Includes capital outlay as follows: 1963, $60,000; 1964, $116,000; 1965, $60,000.

[2] Selected resources as of June 30 are as follows: Unpaid undelivered orders, 1962, $290,000 (1963 adjustments, −$27,000); 1963, $255,000; 1964, $255,000; 1965, $255,000.

Mr. FOGARTY. The committee will come to order.

We have now the occupational health activities.

INTRODUCTION OF DIVISION CHIEF

Dr. ANDERSON. Mr. Chairman, I would like to introduce Dr. Harry Heimann, who is the Chief of our Occupational Health Division. He spent many of his professional years in problems associated with occupations and has done outstanding pioneering work in relationship to the environment and its effect on health. We are delighted to have him as Chief of our Division.

Mr. FOGARTY. It is nice to have you here, Doctor.

Dr. HEIMANN. Thank you.

Mr. FOGARTY. Go ahead.

GENERAL STATEMENT

Dr. HEIMANN. Mr. Chairman, I have a statement I would like to submit and I have a summary of the statement which I should like to read to you if I may.

Mr. FOGARTY. All right.

Dr. HEIMANN. But, first I would like to take this opportunity to thank you and Mr. Lesinski for being present at a special luncheon which was given in honor of our Division by the American Industrial Hygiene Association on the occasion of our 50th anniversary. This occurred on February 6. I especially want to thank you, Mr. Chairman, for the comments you made in your keynote speech at that meeting. I want you to know, Mr. Chairman, that we are taking what you said very seriously.

Mr. FOGARTY. Thank you.

Dr. HEIMANN. When I first entered occupational health in 1938, we were still fighting occupational diseases whose causes had been identified years before. A report released that year by the Public Health Service showed that 10 percent of the felt hat workers in the United States suffered from some degree of mercury poisoning—the "Mad Hatter's" affliction—whose symptoms and causes had been known even in ancient times. Lead poisoning cropped up in new industries. At the same time, the beginnings of a tremendous technological advance gave first warnings of some of the problems we face today.

Today, mercury compounds have been replaced by nontoxic chemicals in the felt hat industry, and we have reason to believe that the day of mass poisonings of industrial workers is gone forever. Nevertheless, new uses or combinations of chemicals, and inadequate protection, still permit toxic exposures. Technologic advances have produced an amazing array of new, useful—and potentially toxic—materials and also unforeseen problems of a type and degree of complexity never before encountered in any consideration of worker health. These include problems of stress, noise, the effects of automation on the worker, the long-range effect of the work environment, and the relation of so-called nonoccupational chronic disease to occupation.

Problems of worker health are so vast and so important that the Federal Government must continue to take the lead in sponsoring, planning, and performing research; must coordinate the efforts of other groups; must strengthen communication so that research results can be applied to the work environment: and must guide State and local governments in the provision of strong health services to workers.

Our occupational health programs have changed—and will continue to change—to meet the needs of the modern industrial world. Increased effort needs to be expended on epidemiologic and laboratory research. We need to continue training: today's occupational health worker needs a thorough knowledge of the biomedical, biochemical, and biophysical fields in order to apply scientific advances. A portion of our research is devoted to refining the tools and methods of investigation to meet the changing nature of modern problems.

Our efforts are aimed at the development of accurate, workable standards governing exposure to toxic hazards, the adoption of effective control measures, and the use of all necessary devices to protect the worker.

The study of chronic chest disease among soft coal miners in the Appalachian area, for which the Congress approved an increase of $400,000 in the 1964 appropriation, is continuing. Medical examinations have been given to 1,300 miners, of a total of 3,000 to be included in the study. Laboratory research and community studies are proceeding. Environmental studies of the mines will begin this year.

Practically every human being in the Nation either is, has been, or will someday become a worker. We can achieve a healthy work force—so important to a healthy economy—only by recognizing the magnitude of the problem and maintaining our national effort in the field of occupational health.

The total funds which we are requesting for 1965 are $5,215,000, which provides for direct operations at essentially the same level as last year, and for an increase of $140,000 for research grants.

Mr. Chairman, I shall be glad to answer any questions you and the other committee members may wish to ask about the occupational health program or the budget.

Mr. FOGARTY. Thank you, Doctor.

COMPARISON OF 1964 AND 1965 BUDGETS

The appropriation for 1964 is $4,990,000 and the request for 1965 is $5,215,000, an increase of $225,000, but no additional positions. Is that right?

Mr. BERSANO. No increase in positions.

RESEARCH GRANTS

Mr. FOGARTY. The only increase you have is for research grants, but this is not much, is it, when you analyze the increase?

Dr. HEIMANN. In actual fact—no, it is not much of an increase for research grants.

Mr. FOGARTY. It is insignificant, is it not?

Dr. HEIMANN. Well, there are eight new research grants this year, which will be eight less new ones than the previous year.

Mr. FOGARTY. That is not going ahead very fast, is it?

Dr. HEIMANN. We are in our third year of this program, sir, and we could go along possibly a little faster.

Mr. FOGARTY. You are going behind. The total number of projects you will be able to support drops from 72 to 66.

Dr. HEIMANN. Yes, sir.

Mr. FOGARTY. And the number of new projects is cut in half, from 16 to 8.

Dr. HEIMANN. Yes.

Mr. FOGARTY. So it looks to me like you are going backward.

How many approvable new grant applications do you expect to have on hand next year, including the unfunded carryover from 1964?

Mr. BERSANO. We expect to have 91 approved projects in 1965.

Mr. FOGARTY. And how many can you fund?

Mr. BERSANO. 66.

Mr. FOGARTY. I see. So you are over 30 percent off on this; running behind about 30 percent?

Mr. BERSANO. Yes, sir.

RESEARCH ON EMPHYSEMA

Mr. FOGARTY. What research are you doing on emphysema? Your justifications say that 6.1 percent of 382,903 male workers receiving social security benefits for total disability received benefits because of emphysema.

Dr. HEIMANN. The work we are now doing in some of our pneumoconiosis studies includes studies in emphysema as well. The coal miner study, for example, covers, broadly, respiratory tract diseases.

We have also begun a study in asbestos workers this year which will also include some areas in relation to pulmonary emphysema.

Mr. FOGARTY. How does smoking affect people with emphysema?

Dr. HEIMANN. Smoking makes people with emphysema a lot worse than they would have been had they not smoked.

Mr. FOGARTY. They are kind of crazy to smoke if they have emphysema, are they not?

Dr. HEIMANN. That is what I have told some friends of mine who have emphysema.

NEW INFORMATION FROM STUDIES OF URANIUM MINE WORKERS

Mr. FOGARTY. What new information do you have on the studies of uranium mine and mill workers?

Dr. HEIMANN. New information that we have been developing indicates that the effects of mining in uranium have caused the occurrence of more lung cancers than would have occurred had these people not been mining in uranium.

We also know that the mines are a lot cleaner now than they had been in terms of being able to produce the disease in these people.

We also are developing the ideas now—and we have not explored these to the extent they should be explored—of finding earlier signs or other associated evidences which might exist between those who would go on to develop lung cancer and other signs which they might show earlier so that we can pull them out of those mining situations for preventive purposes.

These are changes that occur in the white cells of the blood and some changes that have been found in the hair follicles. Broadly, those are the areas that we are developing right now. We are following up these miners. We have a series of a little over 5,000 of them that we think need to be followed for about 10 to 15 years more to find out what happens to these people who have been exposed to these lower concentrations of radon gas and radon products in these mines over the next few years.

TRAINED PERSONNEL

Mr. FOGARTY. Do you have any problem about training in this area? Do we need more trained personnel?

Dr. HEIMANN. To which area are you referring?

Mr. FOGARTY. In the overall.

Dr. HEIMANN. Oh, in the occupational health field?

Mr. FOGARTY. Yes.

Dr. HEIMANN. We feel at this time, Mr. Fogarty, that we do need a lot more people in the field of occupational health. We feel, however, that we can draw upon the pool of people who are developed as a result of training, under the available air pollution grants, radiological health grants, and environmental health sciences grants. We feel we can pull some of those people who are trained into our field.

It is a little tough to do, I must say, to pull them over into our field, but we can do this.

Mr. FOGARTY. Do you think you can do it?

Dr. HEIMANN. We think we can; yes. sir.

Mr. FOGARTY. If you are still around next year, you tell us how well you have succeeded in this area.

Dr. HEIMANN. Yes, sir.

Mr. FOGARTY. Will you make that a part of your testimony next year?

Dr. HEIMANN. Yes, sir. If I cannot do it, I will have my successor do it. Or try to.

Mr. FOGARTY. You say on page 78:

> These courses continue to be oversubscribed, with an ever-lengthening list of applicants.

Can you give us some facts and figures on the extent of the demand?

Dr. HEIMANN. These are the inservice training courses. The short courses that we give.

We have had requests for a lot more than we were able to service.

Mr. FOGARTY. Do you have any figures on that?

Dr. HEIMANN. I do not have them with me.

Mr. FOGARTY. Can you supply them for the record?

Mr. BERSANO. Yes, sir.

Mr. FOGARTY. Fine.

(The information requested follows:)

In 1963 we conducted 24 training courses, representing 36 weeks of training and serving 500 trainees in various aspects of occupational health. In 16 of these courses, laboratory facilities limited the number of students we could accept. In nine courses there was oversubscription of from 30 to 60 percent. The workload of our Training Section requires an 18-month leadtime for course scheduling. During 1963 we found it necessary to defer five courses to the next year. We also were forced to completely omit five other courses which we were asked to give.

Mr. FOGARTY. Is there anything else you want to say, Dr. Heimann?

Dr. HEIMANN. No, sir.

Mr. FOGARTY. Thank you very much.

Dr. HEIMANN. Thank you, sir.

JUSTIFICATION MATERIAL

(Following is the justification material submitted to the committee:)

OCCUPATIONAL HEALTH

Amounts available for obligation

	1964	1965
Appropriation	$4,990,000	$5,215,000
Transfer to "Operating expenses, Public Buildings Service," General Services Administration (76 Stat. 728)	−372	
Proposed transfer from "National Heart Institute" due to Uniformed Services Pay Act of 1963	+49,000	
Comparative transfer from "Salaries and expenses, Office of the Surgeon General"	+7,000	
Comparative transfer to "Environmental health sciences"	−4,000	
Total	5,041,628	5,215,000

Obligations by activity

Description	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Research grants	--------	$2,197,000	--------	$2,337,000	--------	+$140,000
Research, training, and technical services:	228	2,844,628	228	2,878,000	--------	+33,372
Research	156	2,051,628	156	2,071,000	--------	+19,372
Training	30	388,000	30	398,000	--------	+10,000
Technical services	42	405,000	42	409,000	--------	+4,000
Total obligations	228	5,041,628	228	5,215,000	--------	+173,372

Obligations by object

	1964, estimate	1965, estimate	Increase or decrease
Total number of permanent positions	228	228	--------------
Full-time equivalent of other positions	7	7	--------------
Average number of all employees	203	216	+13
Number of employees at end of year:			
Permanent positions	225	227	+2
Other	3	7	+4
11 Personnel compensation:			
Permanent positions	$1,520,000	$1,637,000	+$117,000
Positions other than permanent	40,000	40,000	--------------
Other personnel compensation	13,000	11,000	−2,000
Total personnel compensation	1,573,000	1,688,000	+115,000
12 Personnel benefits	190,000	203,000	+13,000
21 Travel and transportation of persons	235,000	231,000	−4,000
22 Transportation of things	24,000	16,000	−8,000
23 Rent, communications, and utilities	46,000	53,000	+7,000
24 Printing and reproduction	31,000	31,000	--------------
25 Other services	48,128	49,000	+872
Research contracts	337,000	300,000	−37,000
Services of other agencies	20,000	20,000	--------------
Payment to:			
Bureau of State Services management fund	114,500	114,000	−500
National Institutes of Health management fund	29,000	30,000	+1,000
26 Supplies and materials	81,000	83,000	+2,000
31 Equipment	116,000	60,000	−56,000
41 Grants, subsidies, and contributions	2,197,000	2,337,000	+140,000
Total obligations by object	5,041,628	5,215,000	+173,372

Summary of changes

1964 enacted appropriation	$4,990,000
Transfer to "Operating expenses, Public Buildings Service," General Services Administration (76 Stat. 728)	−372
Proposed transfer from "National Heart Institute" due to Uniformed Services Pay Act of 1963	49,000
Comparative transfer from "Salaries and expenses, Office of the Surgeon General"	7,000
Comparative transfer to "Environmental health sciences"	−4,000
Total estimated obligations, 1964	5,041,628
1965 estimated obligations	5,215,000
Total change	+173,372

INCREASES

"Built-in":	
1. Annualization of step 2 of the civil service pay increase	17,000
2. Annualization of cost of Uniformed Services Pay Act of 1963	18,000
3. Annualization of 3 new positions authorized for part of 1964	7,000
Subtotal, "built-in" increases	42,000
Program increases: Research grants	140,000
Gross increase	182,000

DECREASES

Nonrecurring program costs	−6,628
One less day of pay (262 days in 1964; 261 days in 1965)	−2,000
Subtotal, decreases	−8,628
Total net change requested	173,372

EXPLANATION OF CHANGES

Research grants

An increase of $140,000 is requested for research grants to provide for the 58 continuing grants and for 8 new grants.

Decreases

A decrease of $8,628 is included in 1965 for nonrecurring items of equipment of $6,628 and for 1 less day of pay, $2,000.

Explanation of transfers

	1964, estimate	1965, estimate	Purpose
Comparative transfer to: "Environmental health sciences."	$4,000		To exclude from this appropriation funds for the grant review and approval activity in the Office of Resources Development, Environmental Health, previously budgeted in the Bureau of State Services management fund.
Comparative transfer from: "Salaries and and expenses, Office of the Surgeon General."	7,000		For decentralization of costs for accounting services provided in the Washington area.
Transfer to: "Operating expenses, Public Buildings Service," General Services Administration.	372		To transfer to General Services Administration funds for leased space.
Transfer from: "National Heart Institute"	49,000		Proposed transfer of funds to cover increased pay costs due to Public Law 88-132.

Significant items in House and Senate Appropriations Committee reports

Item	*Action taken or to be taken*
1965 Senate report—Occupational health:	
(1) Committee recommended an increase of $400,000 over the House allowance for the further expansion of the comprehensive study of respiratory illnesses of coal miners which was begun in calendar year 1963 in West Virginia.	(1) The Congress appropriated an increase of $400,000 over the House allowance stipulating that of the total appropriation of $4,990,000 an amount of $500,000 shall be available for the continuation of the study of pulmonary diseases of coal miners. During the period January 1963, when fieldwork began, to January 1, 1964, workers at 19 coal mines were examined and a total of 928 working coal miners and 411 ex-coal miners were studied. (These coal miners and workers were selected as part of a statistical sample so as to be representative of all working and ex-coal miners in the Appalachian region of the United States.) In addition, 300 examinations were completed as part of a special study in one coal community. Negotiations are currently being carried on for leased space in Beckley, W. Va., which will be used for the physical examinations of coal miners and research on respiratory diseases.

Occupational health

	Budget estimate to Congress	House allowance	Senate allowance	Appropriation
1962	$3,981,000	$3,981,000	$3,981,000	$3,981,000
1963	4,022,000	4,022,000	4,542,000	4,122,000
1964	4,621,000	4,590,000	4,990,000	4,990,000
1965	5,215.000			

Research grants

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Number	Amount	Number	Amount	Number	Amount
(1) Noncompeting continuations	48	$1,305,000	50	$1,674,000	+2	+$369,000
(2) Competing continuations	8	241,000	8	241,000		
(3) Supplementals	(2)	41,000	(2)	41,000		
(4) Wholly new grants	16	520,000	8	253,000	−8	−267,000
(5) Increased indirect costs—						
(*a*) To 20 percent [1]		90,000		96,000		+6,000
(*b*) To 25 percent [2]				32,000		+32,000
Total, research grants	72	2,197,000	66	2,337,000	−6	+140,000

[1] Relates to all grants approved for support in these years.

[2] Relates to proposed increase in indirect cost rate to 25 percent for grants awarded on or after Jan. 1, 1965.

Support for extramural research in occupational health was provided in 1964 at a level of $2,197,000 which funded 72 research grants. Some examples of projects supported follow: Twelve grants deal with the mechanism and early detection of toxic effects of industrial chemicals, including two projects in which behavioral response of animals as possible sensitive indicators is being explored. Six projects are directed toward industrial noise and its effects on hearing, and one is for exploring the effects of vibrating tools on the health of the users. Occupational pulmonary diseases of various types are the subjects of 25 projects including clinical studies of flax workers, coal miners, and farmers. Six projects deal with the effects of industrial chemicals on the skin (industrial dermatitis). The hazards associated with the manufacture and use of optical masers and lasers is the subject of another project.

An increase of $140,000 is requested for 1965 to permit continuation of the 1964 program and to award eight new grants.

Research, training, and technical services

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	228	$1,763,000	228	$1,891,000		+$128,000
Other expenses		1,081,628		987,000		−94,628
Total	228	2,844,628	228	2,878,000		+33,372

Summary of program

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Research	156	$2,051,628	156	$2,071,000		+$19,372
Training	30	388,000	30	398,000		+10,000
Technical services	42	405,000	42	409,000		+4,000
Total	228	2,844,628	228	2,878,000		+33,372

Research

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
(*a*) Surveillance of trends	7	$149,000	7	$150,000		+$1,000

Fast paced technologic developments constantly introduce a host of new substances and processes, ranging from economic poisons to such high energy devices as lasers and masers, which are finding increased use in industry. Continuing study of current and projected industrial processes and materials is necessary, therefore, as a basis for planning research. Close observation of trends permits the early development of precautionary and preventive measures and the concurrent study of probable health effects during technologic development rather than after widespread investments in plants and machines.

Studies of levels and trends in illness which represent an important phase of this surveillance will continue. Of primary importance will be the refinement of methods for studying the long-term impact of the work environment of health, including the effects of chemical, physical, and sociopsychological factors. Data collected by various governmental organizations will be utilized, including records of the Bureau of Old Age and Survivors Insurance, the National Center for Health Statistics, the Bureau of Labor Statistics, and records of State temporary disability programs.

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
(*b*) Industrial toxicology	40	$441,000	40	$445,000	--------	$4,000

With more than 500 new chemicals finding industrial application each year, there is need for continuing toxicologic evaluations. Intensified study is needed to determine how these chemicals exert their effects in the body, to find early signs of injurious exposures, and to develop more effective preventive measures.

Further studies will be made to examine how altered enzyme patterns and departures in normal metabolism can signal early progressive injury from toxic substances. Development of these biochemical profiles will permit early recognition of harmful effects as well as an evaluation of their severity. Initial studies conducted in the past year are beginning to show promise that increased susceptibility of certain individuals to industrial chemicals may be predicted. Work will continue toward the development of appropriate tests to screen workers who should not be exposed to these chemicals.

Evaluation of the toxicity of plastics and minerals finding increased consumer and industrial use will continue to help establish a basis for threshold limits or maximum acceptable concentrations. These studies include the effect of physical activity on animal responses to respiratory irritants and other inhaled toxic agents.

Work continued during the past year included studies of the chronic effects of long-term exposures to mineral oil mists. The information obtained should be useful in the development of threshold limits and in the design of future toxicologic studies of industrial cutting and cooling oils. The intermetallic compounds, which are finding increasing use in industry, have also been under study.

Work was started to evaluate the toxic potential of a new domestic reserve deposit of beryllium ore before mining operations begin. This deposit, located in southwestern Utah, is considered the largest "free world" ore reserve.

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
(c) Stress evaluation and ergonomics	13	$232,000	13	$234,000	--------	+$2,000

Evolving occupational health concepts have given rise to the new research field of ergonomics, whose objective is to integrate men and machines more effectively, so that work may be performed under conditions of optimum health and efficiency. Drawing heavily on the biological and physical sciences, this area of study focuses on man's physiological and psychological responses to environmental factors. Studies related to noise are particularly appropriate in this field.

The problem of excessive noise and potential hearing loss affects millions of workers in many industries, and continues to be of major concern in industrial compensation. Emphasis will be placed on laboratory studies comparing the effects of continuous versus impulse industrial-type noises, and the extent to which protective devices can offset such impairment. Studies will include psychologic effects, including how a person's ability to learn and perform a modern complicated task is affected by noise.

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
(*d*) Studies of occupational pulmonary diseases	42	$555,000	42	$560,000	--------	+$5,000

It has long been recognized that the lung can be seriously affected by many toxic or irritating substances inhaled in the course of employment. Lung diseases are important contributors to death and disability. For example, in the period 1955–58, 6.1 percent of 382,902 male workers receiving social security benefits for total disability received benefits because of emphysema. Preliminary analysis of occupational relationships has provided important leads for studying specific occupational groups. These require specialized study both for the development of preventive measures and for providing information necessary for analysis of communitywide studies.

The study of chest disease among soft coal miners began in West Virginia in January 1963. Field teams operating in the Appalachian region will continue to examine samples of both active and retired miners. The fieldwork will be supported by laboratory studies and special research projects performed under contract, all directed toward developing information needed for prevention, diagnosis, treatment, and rehabilitation.

Studies will continue which will permit the identification of substances and processes responsible for pneumoconiosis among soft coal miners. Fieldwork supported by laboratory studies will study the relative importance of such agents as carbon, silica, and infectious processes in pneumoconiosis, as seen in U.S. coal miners. This phase of the coal miners study will be specifically aimed at exploring the possibility of future disease prevention through identification and selective control of the offending agent or agents.

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
(*e*) Study of uranium mine and mill workers	8	$95,628	8	$97,000	--------	+$1,372

A study of uranium mines and miners has been underway in the Colorado Plateau for 13 years and this long-range study must be continued to assess morbidity and mortality of the miner. Close surveillance of a group of over 3,000 such miners already shows a trend of increasing lung cancer deaths, which trend must be confirmed. This points up the need for continued efforts both to develop and to strengthen control measures and to increase knowledge of the total effects of the inhaled radioactive dust and other uranium mining hazards. Activities will be continued on clinical examinations, sputum cytology, and followups of miners, special studies of mine environments and their modification, and special radiobiologic studies directed toward the major problems of inhalation, retention, distribution, carcinogenic effects of radioactive dust, and the importance of such possible cofactors as tobacco, silica, and diesel exhaust.

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
(*f*) General epidemiological studies	27	$287,000	27	$290,000	--------	+$3,000

Studies of populations under actual working conditions provide the ultimate test of the adequacy of standards and of conclusions drawn from laboratory studies of toxic and physical stress. They provide the epidemiologic information which defines problems more accurately than is possible from more generalized statistics, and point to areas where laboratory research is needed and where control measures must be instituted. Because of its special capabilities in this field, the Division of Occupational Health is frequently called upon by industry, and State, and local agencies for impartial and authoritative studies of major occupational health problems.

Studies underway, especially those involving long-term observation of populations exposed to hazardous chemicals, will be continued at the current level.

Current projects include a limited study of extreme heat in selected industries. A preliminary study of worker exposures to asbestos fibers and dusts was also initiated during the past year. The study seeks to develop medical and environmental criteria and procedures for control of health risks in the asbestos industry.

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
(*g*) Environmental evaluation and preventive measures	14	$188,000	14	$190,000	--------	+$2,000

Preservation of the worker's health depends in part upon the adequacy and sensitivity of instruments and methods for detecting and measuring environmental conditions. A continuous program is underway to evaluate and develop new devices proposed for various uses and to modify them, where practicable, for application to meet individual problems involving heat, vibration, noise, pressure, and chemical hazards in the work environment. Engineering studies will continue on ventilation, noise suppression, heating and cooling devices, air filtration, and related engineering control measures.

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
(h) Review and approval of grants	5	$104,000	5	$105,000	--------	+$1,000

These funds are used to administer research grants in occupational health; collaborate with the appropriate advisory council in reviewing, evaluating, and presenting grant applications and grant programs, and in carrying out recommendations of the council thereon; conduct conferences for grants program planning; interpret grant programs and regulations to applicants, grantees, and the general public; collect, evaluate, and develop information on the status and needs of occupational health research grants on a national basis; and render counsel concerning the development and maintenance of effective occupational health research programs in institutions, universities, and other organizations. Included in the estimate are payments to the National Institutes of Health for services in connection with the review, evaluation, and payment of grants.

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Training	30	$388,000	30	$398,000	--------	+$10,000

Direct training activities of the Division emphasize specialized short-term courses, not provided elsewhere, supplementing the long-term courses provided by schools of medicine, nursing, engineering, and public health. They are primarily directed to physicians, industrial hygienists, nurses, engineers, and scientists in State and local official agencies and are specifically designed to hasten the application of modern knowledge to public health practice.

Courses range from those covering basic industrial hygiene principles to those that treat highly specialized areas, such as advanced courses in the evaluation and control of heat stress and noise.

In addition to the courses being presented at the Division's Occupational Health Research and Training Facility at Cincinnati, courses are given at various locations in collaboration with State health departments. About half of the courses presented during the past year were held in the field.

These courses continue to be oversubscribed, with an ever-lengthening list of applicants. In order to expand the number of participants that can be accommodated at these courses, the Division has used closed-circuit television.

Basic short-term courses will continue to be presented and a few courses in specialized areas will be developed. Proposed courses include occupational health as a function of local health departments, handling of agricultural chemicals, surveillance of the work environment, and management orientation in occupational health practices.

	1964 estimate		1965 estimate		Increase (+) or decrease (—)	
	Positions	Amount	Positions	Amount	Positions	Amount
Technical services	42	$405,000	42	$409,000	--------	+$4,000

To cope with the health problems associated with the growth of industrial expansion, research programs have been greatly expanded. The results of this research must be applied whenever possible to protect the health of workers.

The effective application of knowledge to promote the health of the working population requires strong and knowledgeable organizations in States, counties, cities, and industry. It requires the availability of consultative service, and a national resource to meet unusual demands for special analyses, emergency investigations of local industrial health problems, and requests for information on employee health care. Every day brings requests for assistance in dealing with problems engendered by brandnew materials and processes in industry.

Among its numerous services to State and local agencies, the Division surveyed 200 manufacturing and 50 service establishments to determine the extent of occupational health problems in a particular city. Examples of such consultation and technical assistance are the evaluation of hazards in coin-operated dry-cleaning establishments; unforeseen toxic problems associated with the introduction of epoxy products in manufacturing and construction; and effects of jet aircraft noise on airport employees.

Consultation to State and local official agencies, and other Federal agencies will continue, both to strengthen and broaden their programs and to solve the more complex problems encountered in the working environment today.

RADIOLOGICAL HEALTH

WITNESSES

DR. DONALD R. CHADWICK, CHIEF, DIVISION OF RADIOLOGICAL HEALTH
ROBERT C. COULTER, EXECUTIVE OFFICER, DIVISION OF RADIOLOGICAL HEALTH
DR. ROBERT J. ANDERSON, CHIEF, BUREAU OF STATE SERVICES
PETER J. BERSANO, FINANCIAL MANAGEMENT OFFICER
DR. LUTHER L. TERRY, SURGEON GENERAL
HARRY L. DORAN, CHIEF FINANCE OFFICER
JAMES F. KELLY, DEPARTMENT BUDGET OFFICER

Object classification

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
11 Personnel compensation:			
Permanent positions	4,125	4,592	4,731
Positions other than permanent	194	200	200
Other personnel compensation	23	47	36
Total personnel compensation	4,342	4,839	4,967
12 Personnel benefits	741	830	862
21 Travel and transportation of persons	505	630	637
22 Transportation of things	120	161	166
23 Rent, communications, and utilities	297	340	343
24 Printing and reproduction	97	206	209
25 Other services	674	848	853
Research contracts	1,718	1,980	1,980
Services of other agencies	79	100	100
Payment to—			
Bureau of State Services management fund	613	725	727
National Institutes of Health management fund	20	29	28
26 Supplies and materials	586	704	709
31 Equipment	866	1,289	895
32 Lands and structures	7		
41 Grants, subsidies, and contributions	4,668	6,709	7,164
42 Insurance claims and indemnities	1		
Total obligations	15,335	19,390	19,640

Personnel summary

	1963 actual	1964 estimate	1965 estimate
Total number of permanent positions	762	782	788
Full-time equivalent of other positions	33	31	31
Average number of all employees	738	763	768
Employees in permanent positions, end of year	721	782	786
Employees in other positions, end of year	105	90	69
Average GS grade	6.2	6.2	6.2
Average GS salary	$5,945	$6,185	$6,179
Average salary of ungraded positions	$4,461	$4,461	$4,461

Program and financing

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
Program by activities:			
1. Grants:			
(*a*) Research	1,544	2,209	2,164
(*b*) Training	1,730	2,500	2,500
(*c*) State program development	1,394	2,000	2,500
2. Research, training, and technical services	9,961	12,681	12,476
Total program costs, funded [1]	14,629	19,390	19,640
Change in selected resources [2]	706		
Total obligations	15,335	19,390	19,640
Financing:			
Comparative transfers to and from other accounts	35	−25	
Unobligated balance lapsing	455		
New obligational authority	15,825	19,365	19,640
New obligational authority:			
Appropriation	15,875	19,145	19,640
Transferred to "Operating expenses, Public Buildings Service," General Services Administration (76 Stat. 728 and 77 Stat. 436)	−50	−25	
Appropriation (adjusted)	15,825	19,120	19,640
Proposed transfer from "National Heart Institute" due to Uniformed Services Pay Act of 1963		245	

[1] Includes capital outlay as follows: 1963, $576,000; 1964, $1,289,000; 1965, $895,000.

[2] Selected resources as of June 30 are as follows: Unpaid undelivered orders, 1962, $1,598,000 (1963 adjustments, −$173,000); 1963, $2,131,000; 1964, $2,131,000; 1965, $2,131,000.

General Statement

Dr. Chadwick. First, I would like to thank the committee for its courtesy in rearranging the schedule so that I might testify today. I have two statements, a summary and a somewhat longer one.

Mr. Fogarty. Go right ahead.

Dr. Chadwick. Mr. Chairman and members of the committee:

PLANS FOR 1965

I would like to highlight briefly the program which the Division of Radiological Health plans to carry out in 1965 to fulfill its responsibility to contribute to the health of the Nation by eliminating unnecessary radiation exposure.

The major elements of our program are the following: (1) The development and application of systems for determining the level of radiation exposure of the population from all sources; (2) evaluation of these exposures with existing information on the effects of radiation on man, as well as carrying out research to provide better information on these effects; and (3) the development and application of methods by which exposures of the population can be reduced or eliminated.

In order to provide for the effective conduct of these program elements, two additional efforts are necessary: (1) Providing technical and financial assistance to State programs, and (2) providing for training of the necessary technical and scientific manpower through support of educational programs in universities and other institutes and the conduct of specialized short courses for health agency personnel.

In order to make progress in achieving these objectives, we are requesting for 1965 $19,640,000, an increase of $250,000 over 1964. The increase provides an additional $500,000 for State program development grants and $79,000 more for technical short-course training. In addition $137,000 is included for mandatory items of expense. These increases are offset by decreases of $466,000, of which $409,000 is for nonrecurring equipment items.

X-RAY PROGRAM

Several elements of our program for 1965 deserve special mention. Our efforts toward the reduction of unnecessary radiation exposure of the population from medical and dental X-rays are being intensified. Considerable success has been achieved to date with dental X-rays, contributed to in no small measure by the surpak survey technique developed by this Division.

Indeed, well over 50 percent of the Nation's dental X-ray machines have been surveyed, and a large number have been supplied with proper filtration and beam-limiting devices to reduce exposure of the patients and the operators.

Similar techniques are under development in the field of medical X-rays, a considerably more complicated technical problem.

Probably about 20 percent of the Nation's medical X-ray units have been surveyed. We are presently field testing a medical surpak technique, which we hope to initiate on an operational basis in 1965. The increase requested for the State program development grant program will enable the States to further develop their X-ray protection programs.

NUCLEAR WEAPONS TESTING

Last year before this committee, we mentioned the efforts toward achieving an agreement with the Soviet Union on a cessation of nuclear weapons tests in the atmosphere.

We share the satisfaction of all that in the fall of 1963, such a treaty was consummated. Even with the passage of the treaty, health agencies must maintain a vigilante surveillance program.

The President has directed that this Nation maintain the capability to resume atmospheric testing if necessary. The retention of capability to test carries with it the requirement to maintain the surveillance capability to determine the amount of exposure of the population from such tests.

Additionally, as pointed out by the National Advisory Committee on Radiation in recent recommendations to the Public Health Service, other factors requiring careful measurement and surveillance programs must be considered.

The Committee pointed out: "Fallout from previous weapons testing will continue for some time; * * *. Although future nuclear detonations are required to be underground, the escape of radioactivity is possible," and a final note, "Testing by nonsignatory nations might occur."

Mr. Chairman, I should be glad to expand on any of these points or answer any questions you may have.

AEC RESPONSIBILITIES

Mr. Fogarty. Is the Atomic Energy Commission doing anything in this particular area that you just talked about?

Dr. Chadwick. Well, the Atomic Energy Commission has recognized that the nationwide surveillance responsibility is in the Public Health Service and there have been several statements in their various documents indicating that.

As far as the surveillance in the area immediately surrounding the test site, this is the responsibility of the Atomic Energy Commission itself. However, they carry out this responsibility through memorandums of agreement with us and we actually do the work. That is we actually do the off-site safety program in the area surrounding the test site.

Mr. Fogarty. So there is not any duplication between you and the AEC?

Dr. Chadwick. There is not; no, sir.

Mr. Fogarty. I happen to be on the other appropriation subcommittee that deals with AEC, also, and this comes up every once in a while.

Dr. Chadwick. Yes, sir.

BUDGET FOR 1965

Mr. Fogarty. The amount available for 1964, taking three or four relatively minor adjustments into consideration, $19,390,000.

Mr. Kelly. That is correct.

Mr. Fogarty. The request for 1965 is $19,640,000, or an increase of $250,000 and six positions.

Now, while the overall increase is only $250,000, there are some nonrecurring costs in 1964, so there is actually $579,000 available for program increases. Right?

Dr. Chadwick. Yes, sir.

STATE PROGRAM DEVELOPMENT GRANTS

Mr. Fogarty. $500,000 of this is for State program development grants, bringing the total of these grants to $2.5 million.

Is this increase to give more money to the participating States or to bring more States into the program?

Dr. Chadwick. It is to give more money to the participating States.

Actually all but two States are in the program.

Mr. Fogarty. What are those two?

Dr. Chadwick. The District of—well, depending on how you define State, the District of Columbia and Guam are the two which have not participated, Guam, of course, not being a State.

Mr. Fogarty. Why has the District not participated?

Dr. Chadwick. It has been a problem of finding an individual to head the program and push the program forward. Now they have a man; they are hiring somebody away from us. So I am sure they will be coming in on the program.

But that has been their problem.

X-RAY PROGRAM

Mr. Fogarty. Bring us up to date on your X-ray program.

Dr. Chadwick. Well, the first thing is program planning and evaluation. Other important activities are surveys and correction programs covering medical X-ray equipment and dental X-ray equipment.

Mr. Fogarty. This dental X-ray protection is getting pretty good coverage now, is it not?

Dr. Chadwick. Very good, yes. Well over 50 percent of the units in the country have been surveyed and many of them have been resurveyed, to determine that the corrections have been properly made.

Mr. Fogarty. And you are working on a new technique for medical X-rays?

Dr. Chadwick. Yes, this is quite a bit more complicated because there is not the standardization of procedures that there is in dental X-rays. I mean they are doing many different field sizes and positions and that sort of thing, so it is quite a bit more difficult.

MATCHING AND ALLOCATION

Mr. Fogarty. What are the matching requirements?

Dr. Chadwick. 50–50.

Mr. Fogarty. How are the funds allocated by State?

Dr. Chadwick. They are allocated on the basis of population, financial need, and the extent of the problem. The extent of the problem is determined largely on the basis of the number of medical and dental X-ray machines, since this is the largest, numerically the largest problem in terms of the number of facilities that have to be visited, et cetera.

Mr. Fogarty. What State would have the most medical X-ray machines?

Dr. Chadwick. It would be either California or New York, Mr. Fogarty. I could supply it for the record if you——

TRAINING

Mr. Fogarty. The remaining $79,000 of program increase is for training. This also accounts for the increase of six positions. What type of training are you proposing to expand, who will participate in the program, and why do you consider this increase to be necessary?

Dr. Chadwick. Well, it will be in short course training, in the short courses we give in our own installations.

The courses will be directed predominantly to State and local health agency people and the reason that we think it is important, is that there is a tremendous need for trained people. Indeed one of the problems that we have noticed is the one that we mentioned here a few moments ago in the District where the reason they have not been able to utilize the funds that have been available to take care of the problems in radiological health, is because they did not have a person to direct the program.

There are other States that have taken some of the funds, but have been unable to take all of the funds or spend all of the funds because of shortage of trained people to take over.

It is part of this gap we would like to take up with this short course training.

SITUATION IN RHODE ISLAND

Mr. FOGARTY. What about Rhode Island?

Dr. CHADWICK. Well, Rhode Island is a State which does not have anyone full time in radiological health. They have several people in the health department, in fact, there are some 11 people in the health department that do radiological health part time. Some portion of their time is spent on radiological health.

Mr. FOGARTY. Don't you think they should have a full-time person there?

Dr. CHADWICK. We certainly would like to see them be in a position to have one full time, yes, sir.

They have done very well, I will say, with their resources. They have surveyed all of the dental X-ray machines in the State.

Mr. FOGARTY. We have a public health trained doctor in charge of the health department for the first time in history, so I would think he would have a full-time man on this job.

RESEARCH GRANT PROGRAM

Now, you are just leveling off your research grant program; you are not just leveling off, you are actually cutting back, are you not?

Dr. CHADWICK. Yes, there is a decrease of $45,000.

Mr. FOGARTY. Do you not need more research?

Dr. CHADWICK. I guess there has been an overall judgment made within the administration that this is the case.

Mr. FOGARTY. Forgetting the overall judgments, what is your judgment? Tell us what you think is the right thing to do in your professional judgment, regardless of any orders that might have been given to you by anybody.

Sometimes it is difficult for us to get a clear picture, so you go right ahead and tell us what you think we ought to be spending on research and how far we ought to go, and what you think of this cutback.

Dr. CHADWICK. There is not any question in the world but what there are many worthwhile grant requests that we will not be able to pay within these resources. I could certainly supply some examples for the record if you wish me to.

We have some studies on the effects of strontium 90 on the pulp of developing teeth we have not been able to fund because of the shortage of funds.

We have a study on the methods of altering the metabolism of iodine 131 and strontium 90 in an effort to cut down the damage that would result from these materials in the environment that we would not be able to fund under this budget.

Indeed, we are projecting a backlog of $362,000 by the end of this year.

And our backlog in this program has tended to get smaller because naturally the community of researchers is also aware of the way our budget goes, and so we are not getting as many requests for grants as we would if it were known that our finances were better than they are.

So there is very little question but what there is work that could and should be done.

Mr. FOGARTY. I am surprised that you are cutting back this year, because yesterday, the Food and Drug Administration told us they are cutting way back in their radiological health work. I thought it was because Public Health Service was stepping up theirs, but that is not so.

Dr. CHADWICK. Well, they are cutting back on their program of generalized surveillance, the measurement of radioactive materials in food items, and they are doing that on the basis of the fact that we are keeping ours up.

In other words we are not cutting back on our program of measurement and surveillance.

Mr. FOGARTY. I see. This estimate that you will be able to support 89 projects with these funds is a pretty optimistic estimate, is it not?

Dr. CHADWICK. Well, that is based upon an estimate of the average size of grant.

Mr. FOGARTY. Last year you estimated you could support 100; you only supported 91.

Dr. CHADWICK. The cost is going up and our estimates of how many we can fund under it keep going down.

Mr. FOGARTY. That is a pretty optimistic estimate, 89, is it not?

Dr. CHADWICK. It may well be a little high, sir.

RESULTS OF RESEARCH

Mr. FOGARTY. What are some of the worthwhile results you are getting from this research and what are your hopes for the future?

LONGEVITY OF RADIOLOGISTS

Dr. CHADWICK. Well, there have been several projects this year that have been of great importance. One is a research grant at Johns Hopkins, where, after a very careful study of the longevity of radiologists, they found there was, in fact, a reduction of lifespan in radiologists as compared with other medical specialties.

This has been of some concern because this shortened life span had not been demonstrated in man. It had been demonstrated in laboratory animals, but not in man. This was a highly significant study.

A preliminary report was given at the APHA meeting in the fall. So this is an extremely important study from the radiobiological point of view and also from the point of view of the formulation of radiation protection standards, because it was felt for some time that the genetic effects of radiation were the limiting factors.

Now it is clearly shown, there are lifetime shortening effects in man; this will have to be taken into account as well.

STUDY OF FLUOROSCOPIC PROCEDURES

In another important study in the X-ray field, being carried out at Emory University Hospital, there has been developed a technique for evaluating radiation dose to the patient from fluoroscopic procedures.

In the spring this year we are going to be doing a nationwide survey in cooperation with the national health survey—a nationwide survey of exposure of the population to X-rays. The purpose of this study will be to try to give us leads as to how the radiation exposure could be reduced, because this, after all, is the important thing. It is not important to just measure it if you are not going to go any further.

This study at Emory University has provided us with a tool we can use in the nationwide survey, one which we would not have had had it not been for this grant at Emory.

Mr. Fogarty. Does every health department have this type of equipment they have at Emory, fluoroscopic equipment?

Dr. Chadwick. Well, all hospitals generally have fluoroscopic equipment of various different designs. Yes, they are not all precisely the same but they all generally have fluoroscopic equipment of the same general variety.

CHEMICAL AGENTS TO PROTECT HUMANS FROM THE EFFECTS OF RADIATION

Mr. Fogarty. What progress are you making in the development of chemical agents to protect humans from the effects of radiation?

Dr. Chadwick. Well, this frankly, Mr. Chairman, has not been very successful to date. There are still studies going on, but most of the protective agents are really not feasible to use on any large scale. The only really great promise is in a curative agent; that is, the use of bone marrow in individuals who have received large doses of radiation, but the protective chemicals to date have not really demonstrated practical applications yet, although work is still going on to try to develop this. Obviously it would be highly desirable if such an agent could be found, because this agent could then be distributed widely and individuals could take the pills in the advance of any expected radiation exposure.

SURVEILLANCE AND MEASUREMENT OF RADIATION

Mr. Fogarty. Regarding your surveillance and measurement of radiation at various points in the country, have you come up with any significant findings during the past year?

Dr. Chadwick. Perhaps the most significant finding is that the increases in strontium 90 fallout which have been predicted by the Federal Radiation Council have in fact occurred and it has indicated that our ability to predict the levels of strontium fallout from the weapons testing activities are improving.

The increases that took place last spring and levels that occurred throughout the year were about twice the levels that had been found in the past. This was in line with the predictions of the Federal Radiation Council.

ROLE IN CONNECTION WITH NUCLEAR REACTORS

Mr. Fogarty. What is involved in your work of evaluating the health hazards of large-scale civilian reactors?

Dr. Chadwick. We have started in the last few years a program of looking at proposals for power reactors or any other kinds of reactors, from the public health point of view, and developing information that would be useful to health departments and to the AEC, which has the licensing responsibility.

So we have been developing reports and making these reports available, both to the AEC and to the States, indicating some of the public health considerations which ought to be——

Mr. FOGARTY. What role do you have in protecting the public from similar hazards in connection with military reactors?

Dr. CHADWICK. In general we carry out these responsibilities under agreements with the Department of Defense or the AEC. And indeed we have—we do work at the Pacific Missile Range and Atlantic Missile Range in connection with devices that contain radioactive materials.

We do off-site monitoring under agreements with them where generally they finance them.

COOPERATION WITH OTHER AGENCIES ON RADIOLOGICAL HEALTH

Mr. FOGARTY. Is there any overlapping of your activities and those of any other Federal agency that you know of?

Dr. CHADWICK. In this area of measurement and surveillance around military reactors?

Mr. FOGARTY. Any radiological area.

Dr. CHADWICK. Well, of course, the place where our programs come the closest together is with the Division of Biology and Medicine of the AEC, and there we have a very careful and comprehensive program of coordination to make the most effective use of the resources available.

I think this has been described.

Mr. FOGARTY. Would you prepare a statement for the record regarding the activities of other agencies in the field of radiation, defining the role of each and setting forth the amounts of their budgets?

Mr. KELLY. Yes, we will do that.

(The document referred to follows:)

INTERAGENCY RESPONSIBILITIES AND COOPERATION IN THE FIELD OF RADIOLOGICAL HEALTH

Many Federal agencies have specific responsibilities in the field of radiation—and thus in the health and safety aspects of this potentially hazardous source of energy. Those agencies most directly concerned include the Departments of Health, Education, and Welfare, Defense, Commerce, Labor, and Agriculture, and the Atomic Energy Commission. Indirectly, several other branches of the executive department also are concerned, even though not having any major operating program responsibilties.

From the standpoint of the Public Health Service, the protection of the public against the hazards of radiation is paramount. However, it is recognized that the health aspect may not always be the governing consideration in the development of national programs concerned with the use of potentially dangerous substance, but must be weighed in relation with other considerations bearing on the national interest.

The following is a brief descripton of the programs of the Federal agencies having important responsibilities in radiation, and of the mechanisms that have evolved to provide essential coordination of standards, policies and program effort among those agencies and for the Federal Government as a whole.

The international treaty to ban atmospheric nuclear tests which became effective in October 1963 has not materially affected the responsibilities of the various agencies as originally described, nor has it affected the mechanisms for coordinating the policies and programs of those agencies.

Department of Defense.—The Department of Defense has very great and far-reaching responsibilities to develop nuclear weapons and test them. It also must be able to predict with the greatest possible accuracy the amounts of radiation produced by these devices either in testing or in warfare, and the effects on both military and civilian populations which may be exposed. Nuclear propulsion. guidance, and signaling devices are of increasing importance in the long-range programs of this Department.

Rigid safety standards must be imposed not only for the storage and use of all weapons and devices but also upon a variety of other radiation sources required in the functioning of the Department of Defense. These include nuclear reactors and their fuels, and the industrial and medical usage of X-rays and radioisotopes in its facilities.

Extensive programs of research and development and for monitoring the radioactivity produced by these devices and materials must be conducted by the Defense Department in carrying out its responsibilties.

Atomic Energy Commission.—The Atomic Energy Commission has even more varied and complex and equally as important responsiblities as those borne by the Department of Defense. They encompass not only the production of the nuclear components of military weapons and, in some instances their propulsion units, but also the peaceful usages of nuclear power and the radioisotopes it produces.

A number of experimental reactors and power reactors are operated by AEC. More important, perhaps, is the growing number of reactors licensed by AEC for operation by university and industrial organizations. This agency produces and controls the distribution of the basic nuclear fuels required for all weapons, nuclear propulsion systems and reactors.

From a health and safety viewpoint, an extremely important aspect of AEC responsibility is the disposal of radioactive waste products in a manner that will insure against their contaminating the environment in which millions of people live. Equally important is the enforcement of regulations to protect against hazardous exposure of population groups and of those who work with radiation producing sources under the control of the AEC while the radiation is being produced by those sources.

The complex technical questions inherent in all of these operations can only be solved by an extensive program of basic and developmental research which utilizes virtually every discipline of biological and physical science.

Finally, AEC provides for surveillance around their installations from which, together with specialized laboratory and field research, it seeks to predict the effect of radiation exposure upon human health for whatever period such exposures can be related directly to sources under AEC conrtol.

Department of Health, Education, and Welfare.—Two constituents of the Department of Health, Education, and Welfare have important responsibilities for protecting the general public against unnecessary or undue exposure to radiation. These are the Public Health Service and the Food and Drug Administration.

There are more than 200,000 X-ray and fluoroscopic machines in hospitals, clinics, and the offices of physicians and dentists of this country. A national Health Survey published last year revealed that about 85 million visits to medical X-ray facilities and 49 million visits for dental X-rays were made during 1961. This one source of human exposure to radiation serves as an indicator to why the Public Health Service is deeply concerned with the increasing sources and amounts of radiation exposure the population is receiving. Since X-rays and isotopes used in the healing arts confer very important benefits it is essential that the risks of the radiation exposure always be kept well below the level of the benefits derived.

A first requirement in the relatively new field of radiological public health is adequate measurement of the exposures received by the general public from all radiation sources. In addition to X-rays these include nuclear test fallout, isotopes, radioactive wastes, and natural sources such a radium. Together, these sources have given varying degrees of exposures to every person in the Nation. Their measurement requires extensive facilities for laboratory analysis of biological materials and for field surveys.

As in other public health problems, effective control of radiation hazards depends upon building capability within the States. To this end the Public Health Service provides the States with technical advice and assistance, helps train technically qualified personnel, conducts demonstrations, and provides financial assistance.

Major research emphasis is on determining the effects of radiation on various groups within the general population and upon more economical, accurate, and rapid methods of estimating human exposures from the many different sources and kinds of radiation. This work is conducted both directly and through grants and contracts.

Another Public Health Service responsibility is to develop effective methods to prevent or reduce the effects of such general population exposures. This requires laboratory and field research and demonstrations conducted directly or in cooperation with other Federal agencies, universities, the States, and with agriculture and industry.

An important responsibility of the Public Health Service is provision of technical assistance to other Federal programs which may produce radiation exposures to general populations. This includes surveillance and laboratory analysis, and liaison with the State and local public health agencies affected.

Finally, under Executive order the Department has a responsibility to serve the entire executive branch as a focal point for the collation, analysis, and interpretation of environmental radiation data obtained from a variety of Federal and non-Federal surveillance systems. This was delegated to and has been a continuing responsibility of the Public Health Service since 1959.

The Food and Drug Administration, under provisions of the Federal Food, Drug, and Cosmetic Act, is responsible for the establishment of safety limits for poisonous or deleterious substances (including radioactivity) in foods, drugs, and cosmetics, and for enforcement action to ensure that foods, drugs, and cosmetics moving in interstate commerce are safe for use.

More specifically, the Food and Drug Administration has the following responsibilities with respect to radiation protection of American consumers: The determination of permissible levels of radioactivity in foods, drugs, and cosmetics; the establishment and promulgation of appropriate regulations identifying such levels (tolerances); the establishment and maintenance of a continuing monitoring program for foods, drugs, and cosmetics as a basis for detecting radioactivity in foods, drugs, and cosmetics, and to develop methods for removing excessive radioactivity from these commodities (decontamination procedures); the training of Federal, State, and local food and drug officials and industrial employees in radiological methodology and treatment; the curtailment of quackery and fraud in the use of foods, drugs, devices, and cosmetics alleged to be beneficial because of their "radioactive" properties; and the development of related public information activities.

Department of Agriculture.—This agency has significant responsibilities which are affected by radiation in the environment. Because of its interest in maintaining production of wholesome food products, the Department is concerned with techniques which will prevent or reduce radioactive contamination of those products. Research to accomplish this and to develop new and better farm products through mutations caused by radiation techniques are among the program areas.

Department of Commerce.—Through its Weather Bureau this Department is responsible for predicting atmospheric transport and deposition of fallout from nuclear testing. The development of standards for the physical measurement of radiation is another function, carried out by the National Bureau of Standards of the Department. The Maritime Administration is responsible for development of nuclear-powered cargo and passenger vessels.

Department of Labor.—This Department is concerned with radiation exposure to the Nation's labor force, and in particular those workers who for any reason may not come under the protective standards enforced directly or through the States by AEC.

Other agencies.—There are several other agencies having some degree of program interest in certain aspects of radiation: The Federal Aviation Agency, for example, is concerned with exposures of passengers and air and ground crews to radioactive debris in the atmosphere; Interstate Commerce Commission with the safety aspects of shipments across State lines of radioactive materials; and the U.S. Post Office with the safety aspects of radioactive materials transmitted by mail.

Federal Radiation Council.—In 1959 it had become apparent that with so many Federal programs concerned with radiation usage and its effects on man, uniform standards relating to acceptable radiation exposures were needed.

To achieve this purpose the Federal Radiation Council was created by Presidential Executive order that year to centralize Federal responsibility for providing general standards and guidance to executive agencies for their use in developing operating rules and regulations for radiological health protection. As presently constituted the Council includes the Secretaries of Health, Education, and Welfare, Defense, Agriculture, Commerce, and Labor, the Chairman of the Atomic Energy Commission, and the President's Science Adviser.

In addition, the Council advises the President on major questions involving radiation protection and serves to promote coordination of high level radiation policies and program decisions among all Federal agencies.

The Interagency Committee on Radiological Assistance has developed a plan whereby various Federal agencies can provide rapid and effective action, coordinated with activities of State and local health, police, fire, and civil defense agencies, to cope with radiological incidents.

The two programs having the greatest common interest in radiation exposures which might affect the general public are those operated by the Atomic Energy Commission and the Department of Health, Education, and Welfare; the Public Health Service in particular. In recent years a number of mechanisms have been developed to further coordination of policies and operating programs. The objective has been not only to avoid conflict of purposes and unnecessary duplication of effort, but also to insure that their respective activities supplemented and supported each other to the greatest degree possible.

For top policy decisions the Chairman of the Atomic Energy Commission and the Secretary of Health, Education, and Welfare meet when required. Continuing discussions at this level are maintained by policy designates consisting of a high-level staff member of each agency appointed for this specific purpose. These policy designates meet whenever necessary to settle policy and operational problems which have arisen within the framework of the general guidelines of the Council or the top policy decisions of the AEC Chairman and the Secretary, HEW.

A joint AEC–PHS Radiobiology Research Group meets regularly to exchange current information of mutual interest concerning a variety of topics, including population exposures and progress in biomedical research.

Special project technical meetings are held between operating technical personnel from the two agencies whenever either group feels that coordination of effort or exchange of information is needed for specific technical projects.

Budget data	Fiscal year 1964	Fiscal year 1965
U.S. Atomic Energy Commission	$62,226,000	$70,170,000
Department of Health, Education, and Welfare:		
Public Health Service	19,390,000	19,640,000
Food and Drug Administration	1,175,000	1,080,000

DR. CHADWICK'S POSITION ON U.N. SCIENTIFIC COMMITTEE ON THE EFFECTS OF ATOMIC RADIATION

Mr. Fogarty. Now, it has been brought to my attention that you have been selected as the consultant to the U.S. representative on the United Nations Scientific Committee on the Effects of Atomic Radiation.

The meeting is to be held in Geneva beginning next Monday. It is my understanding you are the first Public Health Service man to be selected for this position. I think that is a very high honor. I think you should be commended for it, and I hope you have a good trip.

Dr. Terry. Mr. Chairman, I might call your attention to the fact Dr. Chadwick was one recipient of the Fleming Award.

Mr. Fogarty. I hope you stay with the Public Health Service.

Dr. Terry. I do too.

Dr. Chadwick. I have every intention of doing so, sir.

Mr. Fogarty. Is there anything else you want to say? Thank you very much.

(The formal justifications follow:)

RADIOLOGICAL HEALTH

Amounts available for obligation

	1964	1965
Appropriation	$19,145,000	$19,640,000
Transfer to "Operating expenses, Public Buildings Service," General Services Administration (rent)	−25,000	
Proposed transfer from "National Heart Institute," due to Uniformed Services Pay Act of 1963	+245,000	
Comparative transfer from "Salaries and expenses, Office of the Surgeon General"	+49,000	
Comparative transfer to "Environmental health sciences"	−24,000	
Total	19,390,000	19,640,000

Obligations by activities

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Grants		$6,709,000		$7,164,000		+$455,000
Research		2,209,000		2,164,000		−45,000
Training		2,500,000		2,500,000		
State program development		2,000,000		2,500,000		+500,000
Research, training, and technical services	782	12,681,000	788	12,476,000	+6	−205,000
Measurement and surveillance	301	4,309,000	301	3,944,000		−365,000
Effects of radiation on man	125	3,237,000	125	3,256,000		+19,000
Development of methodology for exposure reduction and control	97	1,844,000	97	1,864,000		+20,000
Technical assistance	141	1,814,000	141	1,834,000		+20,000
Training	118	1,477,000	124	1,578,000	+6	+101,000
Total obligations	782	19,390,000	788	19,640,000	+6	+250,000

Obligations by object

		1964 estimate	1965 estimate	Increase (+) or decrease (−)
	Total number of permanent positions	782	788	+6
	Full-time equivalent of all other positions	31	31	
	Average number of all employees	763	768	+5
	Number of employees at end of year:			
	Permanent positions	782	786	+4
	Other	90	69	−21
11	Personnel compensation:			
	Permanent positions	$4,592,000	$4,731,000	+$139,000
	Positions other than permanent	200,000	200,000	
	Other personnel compensation	47,000	36,000	−11,000
	Total personnel compensation	4,839,000	4,967,000	+128,000
12	Personnel benefits	830,000	862,000	+32,000
21	Travel and transportation of persons	630,000	637,000	+7,000
22	Transportation of things	161,000	166,000	+5,000
23	Rent, communications, and utilities	339,700	343,000	+3,300
24	Printing and reproduction	206,000	209,000	+3,000
25	Other services	848,000	853,000	+5,000
	Research contracts	1,980,000	1,980,000	
	Services of other agencies	100,000	100,000	
	Payment to:			
	Bureau of State Services management fund	725,300	727,000	+1,700
	National Institutes of Health management fund	29,000	28,000	−1,000
26	Supplies and materials	704,000	709,000	+5,000
31	Equipment	1,289,000	895,000	−394,000
41	Grants, subsidies, and contributions	6,709,000	7,164,000	+455,000
	Total obligations by object	19,390,000	19,640,000	+250,000

Summary of changes

1964 enacted appropriation	$19,145,000
Transfer to "Operating expenses, Public Buildings Service," General Services Administration (rent)	−25,000
Proposed transfer from "National Heart Institute" due to Uniformed Services Pay Act of 1963	245,000
Comparative transfer from "Salaries and expenses, Office of the Surgeon General"	49,000
Comparative transfer to "Environmental health sciences"	−24,000
Total estimated obligations, 1964	19,390,000
1965 estimated obligations	19,640,000
Total change	+250,000

INCREASES

"Built in":	
1. Annualization of step 2 of the civil service pay increase	37,000
2. Annualization of increased cost of Uniformed Services Pay Act of 1963	77,000
3. Annualization of 18 new positions authorized in 1964	23,000
Subtotal, "built in" increases	137,000
Program increases:	
1. State program development grants	500,000
2. Training (6 positions)	79,000
Subtotal, program increases	579,000
Gross increases	716,000

DECREASES

Research grants	−45,000
Nonrecurring requirements for equipment, authorized in 1964	−409,000
1 less day of pay in 1965 (261 days in 1965; 262 days in 1964)	−12,000
Subtotal, decreases	−466,000
Total net change requested	+250,000

EXPLANATION OF CHANGES

State program development grants

An increase of $500,000 is requested to enable the States to increase their capability to carry out programs to protect their populations from unnecessary radiation from X-rays.

Training

An increase of six positions and $79,000 is requested for expansion of the radiological health technical short-term training program.

Decreases

The decrease of $45,000 results from a decrease of new research grant projects estimated to be funded in 1965.

The decrease of $409,000 represents the cost of nonrecurring equipment purchased in 1964.

The decrease of $12,000 results from 1 less day of pay in 1965.

Explanation of transfers

	1964 estimate	1965 estimate	Purpose
Comparative transfer to: "Environmental health sciences."	$24,000	------------	To exclude from this appropriation funds for the grant review and approval activity in the Office of Resources Development, Environmental Health, previously budgeted in the Bureau of State Services management fund.
Comparative transfer from: "Salaries and expenses, Office of the Surgeon General."	49,000	------------	For decentralization of costs for accounting services provided in the Washington area.
Transfer to: "Operating expenses, Public Buildings Service," General Services Administration.	25,000	------------	To transfer to General Services Administration funds for leased space.
Transfer from: "National Heart Institute."	245,000	------------	To transfer funds to cover increased pay costs due to Public Law 88-132.

Radiological health

	Budget estimate to Congress	House allowance	Senate allowance	Appropriation
1962	$9,147,000	$9,147,000	$10,647,000	$10,647,000
1963	17,775,000	15,875,000	17,375,000	15,875,000
1964	18,776,000	18,745,000	19,145,000	19,145,000
1965	19,640,000	------------	------------	------------

Research grants: Projection of recommended research grants

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Number	Amount	Number	Amount	Number	Amount
1. Noncompeting continuations	47	$1,036,000	64	$1,315,000	+17	+$279,000
2. Competing continuations	9	171,000	14	415,000	+5	+244,000
3. Supplementals	(4)	50,000	(5)	72,000	(+1)	+22,000
4. Wholly new grants	35	859,000	11	239,000	−24	−620,000
5. Increase in indirect costs:						
(*a*) To 20 percent [1]		93,000		81,000		−12,000
(*b*) To 25 percent [2]				42,000		+42,000
Total	91	2,209,000	89	2,164,000	−2	−45,000

[1] Relates to all grants approved for support in 1964 and 1965.

[2] Relates to proposed increase in indirect cost rate to 25 percent for grants awarded on or after Jan. 1, 1965.

Examples of some of the types of specific projects already underway include: (1) Research on the use of chemical agents to protect humans from the many forms of ionizing radiation; (2) studies of children and adults who have been known to have received some form of ionizing radiation to determine the effects of radiation in low doses; (3) a study on X-ray induced chromosome changes in man; and (4) a study of the environmental factors affecting the cesium 137 content in milk.

Future efforts will be directed toward stimulating research proposals in the area of effects on man of protracted exposure to low levels of radiation. If we are to gain the full benefit of the atomic age, we must have more detailed knowledge of the long-term effects of radiation so that we may protect the Nation against possible health hazards.

We plan also to encourage research proposals in the following areas:

(1) Countermeasures: This is a broad category in which a minimum amount of research has been done. It includes specific proposals dealing with the reduction of radiation exposure to medical X-rays by improved techniques, development of food processing procedures for the removal of radionuclides, and the addition of stable compounds to the human diet to prevent the intake of radionuclides.

(2) Synergistic effects: At present there has been little research in this area; i.e., where the sum of the effects of two agents such as a chemical compound and ionizing radiation is far greater than either one individually or the two added together. The development of techniques in this area and their importance in the field of medicine is obvious.

(3) Ecological studies: More intensive studies are planned on the various food chains in nature and the transport of radioisotopes from simple to complex organisms.

Training grants

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Number	Amount	Number	Amount	Number	Amount
Continuations and supplemental requests	30	$1,934,000	45	$2,500,000	+15	+$566,000
New projects	15	566,000			−15	−566,000
Total	45	2,500,000	45	2,500,000		

The training grants program supports the Division of Radiological Health goal of stimulating adequate training to produce a sufficient number of well-trained radiological health specialists, semiprofessionals, and technicians to carry out the wide range of radiological health programs of health agencies at the Federal, State, and local levels as well as nongovernmental health programs. Under this program grants are made to educational institutions to support development and presentation of radiological health curriculums and to furnish financial assistance to selected students in training to become specialists or technicians. In the past it has been necessary to give priority to grants to support the training of specialists only, due to the limited amount of funds available for this purpose. However, in response to the increasing demands by State and local governments for technicians to assist the specialists in carrying out the more routine day-to-day functions, technician training was begun in 1964. The State program development grants have stimulated progress in nearly all of the States toward developing comprehensive State radiological health programs, therefore the demand for all categories of trained radiological health personnel will continue.

For 1965 it is planned to continue at the same level while evaluating, refining, and modifying programs begun in 1964. For example, through experience gained in 1964 and prior years we are able to suggest improvements in curriculums at the various educational institutions receiving grants by recommending certain topics, textbooks, and equipment. Approximately 45 training projects will be supported in 1965, the same number expected to be supported in 1964 as compared to 32 in 1963.

State program development grants

1964 estimate	$2,000,000
1965 estimate	2,500,000
Increase or decrease	+500,000

By the end of 1964, it is expected that most of the States will have acquired the minimum staff needed for their radiological health programs and will have identified the degree of expansion needed in each of the principal radiological health areas. The requested increase will provide a combined total of $5 million in State and Federal funds for the State radiological health programs. This is approaching the amount of money which we estimated was needed to fund basic State radiological health program needs in our second status report. issued in April 1962. This report outlines the current status of each of the State radiological health programs.

Additional grant funds will make it possible for the States to increase their capability to carry out programs to protect their populations from unnecessary radiation from X-rays. This will be accomplished by: (1) establishing requirements for mandatory registration of X-ray machines; (2) carrying out surveys and demonstrations of proper techniques in the use of X-ray equipment; (3) hiring trained technicians and acquiring survey instruments to conduct onsite inspections and correct existing hazards; and (4) insuring that deficiencies previously discovered by the Public Health Service's dental surpak program have been corrected. At the present time 35 States have participated in this program while only a few have been able to initiate all our recommendations in this area.

Increased uses of radioactive materials for research and industry, the existing fallout from previous military testing, continuing underground tests, and aerospace experiments have made it essential that States provide and maintain an adequate surveillance capacity and a public health preventive measures program. This is of vital concern to all States and requires additional efforts by those States with special radiological health problems, such as proximity to power reactor sites or other major nuclear facilities. In addition a number of States are assuming the Atomic Energy Commission's regulatory functions of licensing and inspecting radioactive byproduct materials. It is evident that the present situation has increased the responsibility of the States to establish competent staffs and laboratories for the determination and control of radioactivity levels in their jurisdiction and to be able to assure the public that reliable precautions are being observed and preventive measures are available in the event they are needed.

Allocation of State program development grant funds for radiological health

State or territory	1963 allocations	1964 allocations	Estimated 1965 allocations
Alabama	$24,600	$34,500	$43,200
Alaska	15,000	15,000	15,000
Arizona	15,000	15,000	18,900
Arkansas	16,000	21,100	27,100
California	108,500	155,900	199,400
Colorado	15,000	22,500	34,700
Connecticut	16,000	22,800	29,400
Delaware	15,000	15,000	15,000
District of Columbia	15,000	15,000	15,000
Florida	37,300	53,800	71,500
Georgia	30,100	42,200	53,700
Hawaii	15,000	15,000	15,000
Idaho	15,000	18,100	20,700
Illinois	60,700	83,400	107,100
Indiana	28,000	39,400	50,700
Iowa	20,400	27,900	35,000
Kansas	15,000	20,700	26,200
Kentucky	23,300	32,200	41,100
Louisiana	25,900	35,800	46,900
Maine	15,000	15,000	15,000
Maryland	20,100	28,600	36,100
Massachusetts	39,000	53,800	68,300
Michigan	49,800	70,900	93,200
Minnesota	27,600	39,600	48,200
Mississippi	20,700	27,800	35,900
Missouri	31,400	42,700	53,900
Montana	15,000	15,000	15,000
Nebraska	15,000	15,000	18,700
Nevada	15,000	15,000	15,000
New Hampshire	15,000	15,000	15,000
New Jersey	35,400	51,400	64,900
New Mexico	15,000	15,700	18,300
New York	123,900	169,900	223,500
North Carolina	36,000	50,900	62,900
North Dakota	15,000	15,000	15,000
Ohio	61,900	89,900	115,500
Oklahoma	17,700	25,800	32,000
Oregon	15,000	19,500	24,300
Pennsylvania	81,100	113,500	145,500
Rhode Island	15,000	15,000	15,000
South Carolina	22,400	31,500	38,500
South Dakota	15,000	15,000	15,000
Tennessee	34,100	46,900	59,700
Texas	64,400	95,400	120,000
Utah	15,000	15,000	21,300
Vermont	15,000	15,000	15,000
Virginia	28,700	40,900	53,000
Washington	23,200	34,200	42,700
West Virginia	15,000	20,200	24,000
Wisconsin	26,900	37,900	48,300
Wyoming	15,000	15,000	15,000
Guam	10,000	9,700	10,000
Puerto Rico	19,900	27,600	35,500
Virgin Islands	5,000	5,400	5,200
Total	1,500,000	2,000,000	2,500,000

Research, training, and technical services

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	782	$5,669,000	788	$5,829,000	+6	$160,000
Other expenses		7,012,000		6,647,000		−365,000
Total	782	12,681,000	788	12,476,000	+6	−205,000

SUMMARY OF PROGRAM

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Measurement and surveillance	301	$4,309,000	301	$3,944,000		−$365,000
Effects of radiation on man	125	3,237,000	125	3,256,000		+19,000
Development of methodology for exposure reduction and control	97	1,844,000	97	1,864,000		+20,000
Technical assistance	141	1,814,000	141	1,834,000		+20,000
Training	118	1,477,000	124	1,578,000	+6	+101,000
Total	782	12,681,000	788	12,476,000	+6	−205,000

1. Measurement and surveillance

The determination of the level of exposure to man from all sources of radiation provides the basis for actions to control and reduce the levels or effects of such radiation. This is accomplished by (1) developing methods and systems for surveillance; (2) applying these in evaluating radiation exposure of the population; (3) reporting of surveillance data, and (4) providing laboratory and field measurements to assist States and other Federal agencies in delineating hazards to establish a basis for public health preventive measures.

In 1964 and 1965 the following developmental projects will be continued or initiated: (1) field testing of a system for measurement of exposure of the population from medical and dental X-rays; (2) developing specific purpose surveillance programs for use by Federal, State, or local agencies; e.g., at ports visited by nuclear powered ships, around reactor sites and for aerospace nuclear propulsion; (3) laboratory testing of the feasibility of routinely screening samples for the geneticly important carbon 14 and tritium nuclides; (4) designing, developing, and testing instrument systems for automating routine laboratory operations, rapid field measurements and precision techniques for standardization and quality control purposes.

In 1965 we will continue our basic environmental radiation measurement systems for air, water, milk, and human diet. With a view to obtaining better estimates of human exposures we will carry out in vitro and in vivo measurements to determine body burdens of radioactive materials in humans. Emphasis will be placed on total diet measurements and analysis of biological specimens. By the beginning of 1965 the total diet sampling program will have been increased from 20 to 50 stations. Intensive local field survey projects will be established and maintained to delineate possible or actual environmental contamination from unique radiation or radioactivity producing sources such as aerospace nuclear systems, maritime, or land-based nuclear power facilities. Significant progress has been made in the past year in the accuracy and rapidity of processing of surveillance data and in reporting this to interested official agencies and the public. Continued efforts will be made to automate many of the data handling steps.

To insure the reliability of our own laboratory results, in 1963 we established a special unit to centralize and expand the quality control program. During 1964 and 1965 the quality control program is being expanded to encompass the analytical program for identification of all radionuclides of public health significance in milk plus a program for measurement of strontium 90, strontium 89, and radium 226 in food and diet samples. Initial steps are being taken to expand the program to include State laboratories and a number of other Federal agencies as well as to provide calibrated isotope services.

As a result of an understanding with the Atomic Energy Commission in 1963, we began the evaluation of environmental health hazards that may result from nuclear facilities under normal and abnormal operations. Approximately 25 large-scale reactors are now in use with 13 under construction and more being planned. Technical reports on these proposed nuclear installations are reviewed to assure that adequate consideration has been given the possible contamination of the environment and radiation exposure to the public at large. Results of these reviews are provided to both the Atomic Energy Commission and to the State health agencies concerned. During 1963, 13 reports were issued as a result of evaluations of reactor proposals. Technical assistance was given to such States as North Dakota, Rhode Island, Virginia, California, New York, and Wisconsin in determining suitable operation and location of reactors.

The net decrease of $365,000 results from a nonrecurring equipment expenditure made in 1964 in connection with construction of new leased facilities in Las Vegas, Nev.

2. Effects of radiation on man

Our primary approach to the determination of the long-term effects of radiation on man is the conduct of studies of the relationship between radiation dose and the incidence of disease and disability in human population groups. Such human population studies involve: the identification of a suitable study group with a common source of definable radiation exposure, the determination of the radiation dose received by members of the group, and the comparison of disease and disability indexes between the study group and the suitable controls. These studies on dose-effect correlation include population groups exposed to certain radiation situations; occupational sources of radiation; and procedures involving radiation, used in medical diagnosis and therapy. The field phases of 3 of the 11 studies initiated in this area will have been completed by the end of 1964 and will cover the interrelationship between radiation exposure and (1) longevity in dentists in New England; (2) the occurrence of mongolism in the Baltimore area; and (3) cancer in children exposed to radiation in utero. In 1965 the study of environmental radium exposures in Midwestern States will be extended as well as efforts toward studies on diagnostic exposures in children and studies of liver tumors among patients who received diagnostic thorotrast.

Our field and laboratory supportive studies which provide a firm basis for conducting and interpreting the human population studies include (1) studies of the metabolism of strontium and iodine at different ages (including fetal) to provide supportive data for estimates in connection with related human population studies; (2) experimental studies involving small animals and phantoms designed to provide more precise dose estimates for studies of congenital malformations, thyroid carcinoma associated with therapeutic exposure to X-ray and in in-utero pelvimetry; (3) studies of chromosome changes following diagnostic radiation procedures, extending in 1965 to cover the incidence and duration of chromosome aberration for different tissue cells grown in culture media in relation to dose and type of radiation; (4) studies at the Colorado Collaborative Animal Research Laboratory on the dose related factors in radiation exposure, the relative sensitivity of various age groups, and the occurrence of subtle pathologic, physiological, and biochemical changes which may be precursors of cancer production and premature aging.

3. Development of methodology for exposure reduction and control

Two categories of population exposure for which it is necessary to develop methodology for exposure reduction are (1) medical and dental X-rays and (2) environmental contamination from radioactive materials. Efforts in the medical and dental X-ray area are devoted to research and development and testing of a practical medical surpak; the evaluation and development of satisfactory and acceptable radiographic and fluoroscopic instruments which subject patients to a minimum of radiation exposure; and research into the amount of dosage to vital body areas by various radiographic and fluoroscopic procedures and determining dose reduction through improvements in instrumentation and technique. In 1964 the medical surpak, developed from experience gained through the successful dental surpak, will be field tested. X-ray tube filtration studies will also be conducted to determine the increase in X-ray tube filtration with usage and a number of various instrument prototypes will be constructed and tested including fluoroscopic brightness meters and automatic collimation devices. In 1965, research work will concentrate on image intensifiers and film improvement so as to reduce patient and technician exposure and yet obtain desirable radiographic and fluoroscopic results. It will include work in developing improved instruments and techniques for assessing and improving the operational characteristics of present machines as well as developing methods for providing greater protection to the X-ray user.

Efforts to reduce and control environmental contamination with radioactive materials is continuing through investigations of the occurrence and movement of radionuclides from their source to their eventual deposition in man in order to identify points at which intervention to reduce ultimate exposure would be most feasible and effective. In 1964, studies on the synergistic and antagonistic effects of stable elements and chemical radicals on the behavior of radionuclides in environmental media will be made. In both 1964 and 1965, fresh water pond experiments on the fate of radionuclides discharged to the hydrosphere will continue on specific factors, such as uptake of radionuclides by suspended matter, bottom sediments and aquatic biota. Also as a counterpart to the fresh water studies, research will be continued to determine the extent of uptake of important radionuclides by marine organisms important in the food chain of humans.

In 1965 work will continue in the development of public health preventive measures such as the full-scale milk plant for removal of strontium from milk and studies on the effect of naturally occurring chelating agents in soils on the uptake of radionuclides by plants. Cooperative studies with the USDA have also demonstrated the efficacy of utilizing stored foods in lieu of pasture to effect a significant reduction of iodine 131 levels in milk. Pilot studies offer encouragement for further development of similar preventative techniques including possible adaptation of the full-scale milk plant process to include removal of other anionic radionuclides such as iodine 131 in milk.

The requested increase of $20,000 is for built-in items of expense.

4. Technical assistance

The principal means of helping the States and local communities meet their responsibility to protect the public against the hazard of undue radiation exposure are by (1) technical consultation; (2) special project development; and (3) State program development grants. The program includes the assignment of personnel and loan of equipment to State health departments, the X-ray survey program, and consultation by our regional consultants and headquarters personnel.

Technical consultation provided by our regional consultants as well as other staff, as indicated, includes reviewing proposed legislation and regulations concerning radiological health; assisting in X-ray surveys; advising on surveillance measures in the vicinity of nuclear reactors, waste disposal sites, and processing plants; advising us to the kinds of equipment and personnel needed for various phases of the State's radiological health program; evaluating plans submitted by States and recommending appropriate action to be taken in order to qualify for the radiological health matching grants program; lecturing and conducting seminars for the benefit of State health department personnel and members of professional societies; maintaining an inventory of State radiological health programs; and provision of staff for assignment to States.

There are at present 40 technical personnel assigned to State health departments to render direct assistance in carrying out State radiological health programs. This level will continue during 1964 and 1965.

In addition to the across-the-board type of assistance offered in the technical consultation activity, intensive specialized assistance is given to the States to help them develop competence in specific areas. Specific areas in which we have provided assistance in 1964 and plan to continue our effort in 1965 include—

1. Reduction of unnecessary exposure from dental X-ray equipment.
2. Reduction of unnecessary exposure from medical X-ray equipment.
3. Improvement of State surveillance systems.
4. Strengthening of State programs for radioactive materials control.
5. Development of State capability to reduce radiation exposure from environmental sources where necessary.

In 1965, the highly successful dental surpak program will be continued. In addition, a start will be made on a similar program for the medical surpaks. There are about 100,000 medical X-ray units in this country, less than 20 percent of which have so far been surveyed. The results of these surveys which have been conducted have revealed deficiencies in equipment and techniques which can be corrected, thereby leading to a reduction in radiation exposure hazards, without impairing their diagnostic or therapeutic usefulness. An effort will be directed toward providing a technical basis for instruction of medical students, practicing physicians, and X-ray technicians in the use of proper radiographic techniques which will result in the least possible patient exposure consistent with diagnostic needs. This effort will be similar in nature to the one being carried out in the dental X-ray program.

Efforts will be continued in 1965 to help the States improve the surveillance systems. State and local health officials must assure the public that adequate alert systems exist to detect increases in radiation levels should they occur, and that there is a basis for intelligent decisions to be made on whether public health action is necessary. National air and milk networks operated by the Public Health Service adequately reflect the radiation picture in the Nation as a whole, and can alert appropriate State officials that environmental radiation levels at one or two points within a State are high or are rising. Thereafter, detailed information as to the exact extent of the problem, geographically and quantitatively within the State, is needed as a basis for decisions on whether to take public health action to protect the people of the State.

Efforts to assist the States in developing adequate programs for the control of radioactive materials used in industry, research, and teaching to prevent undue exposure of the public will be continued in 1965. In the case of radioactive materials presently under AEC control, this involves development of State capability for program licensing, regulation, and inspection of these sources. This is in accord with Public Law 86–373, which provides for the orderly transfer from the Atomic Energy Commission to the States of regulatory authority over licensed radioactive materials provided the States involved can convince the AEC of their competence in this field.

Continuing efforts will be made in 1965 to assist States in planning, organizing, and field testing standby programs to reduce radiation exposure of the population from environmental sources should such measures become necessary. In 1964, cooperative agreements are being negotiated with the States of Utah and California to evaluate the feasibility of various protective measures aimed at radioiodine in milk. In addition, a report devoted to methods for evaluating protective measures has been drafted and will soon be distributed to State health departments. These efforts will be further developed in 1965.

The increase of $20,000 is requested for built-in items of expense.

5. *Training*

The Division has established a program which is substantially contributing to meeting the needs of Federal, State, and local health agencies for radiological health specialists and technicians. This program consists of: (1) The technical short course training programs conducted at headquarters and in the field; (2) advanced academic training of Service officers; and (3) training grants to institutions to support full-time academic training of specialists and technicians.

The technical short course training program is designed to provide professional health personnel with general orientation in radiological health work and intensive training in specific technique. Attention is directed to the incorporation of current technological advancements and research findings into ongoing courses so that new developments may be introduced promptly into active radiological health programs.

An increased effort is being made to provide a greater number of courses in locations accessible to technical personnel in order to meet the training needs of more individuals from Federal, State, and local health agencies throughout the United States. Approximately 90 weeks of special radiological health short course training was provided to an estimated 1,350 health personnel in 1963. The demand for this type of training has compelled us to increase this number to 130 course weeks in 1964 with emphasis on conducting 40 weeks of such training in field locations including, when practicable, our regional laboratories.

In 1965 major efforts will be made toward improving the quality and content of courses and providing States with additional field courses especially designed to meet their particular needs, including X-ray protection, radiation surveillance, or management of radionuclides. Representative of the increased scope of training planned is a new 1-week course proposed for professional public health personnel in administrative positions. This course will present a general survey of the field of radiological health with emphasis on the public health implications and responsibilities in control programs. It will be multidisciplinary.

For those who are directly responsible for the technical aspects of State and local programs, comprehensive courses of greater depth will be designed to increase the competency of personnel in special areas.

Regional short courses or work conferences are planned for educators in the health professions to prepare and encourage them to incorporate radiological health content into their respective curriculums. Assistance will be given to States in providing appropriate training for users of radiation (physicians, dentists, scientists, educators, etc.) and in planning for course participants to convey radiological health concepts to their respective local professional organizations.

In order to increase assistance to States in planning for radiological health training courses, and to increase the ratio of field short term training courses to those given at headquarters, an increase of $87,000 is requested. This will provide five professional type training personnel and one clerk as well as funds for travel, equipment, and other field support services.

The advanced academic training program is concerned with outside-the-Service training of Service officers, university liaison activities, and general assessment of present and future national needs for radiological health training. University liaison activities involve assisting institutions in developing and incorporating radiological health subjects into the curriculums for physicians, dentists, engineers, and others whose professional responsibilities include dealing with radiological health hazards. Outside-the-Service graduate training in radiological health is designed to equip experienced Public Health Service officers with the new tools and knowledge necessary to assume responsible positions in all areas of the total radiological health effort, as well as to provide the basic radiological health background to relatively new officers trained in one of the many related professional disciplines. In 1964, 30 Public Health Service personnel will receive such training.

In addition to the requested program increase of $87,000 for technical short term training, an increase of $14,000 is also requested for built-in items of expense.

New positions requested, fiscal year 1965

	Grade	Annual salary
Research, training, and technical services:		
Education specialist	GS-9	$7,030
Training aid	GS-5	4,701
Clerk-stenographer	GS-3	3,890
Commissioned officers:		
Full grade		7,500
Senior assistant grade (2)		12,480
Total, all new positions (6)		35,601

THURSDAY, FEBRUARY 20, 1964.

WATER SUPPLY AND WATER POLLUTION CONTROL

WITNESSES

GORDON E. McCALLUM, CHIEF, DIVISION OF WATER SUPPLY AND POLLUTION CONTROL

JOHN T. BARNHILL, ACTING DEPUTY CHIEF, DIVISION OF WATER SUPPLY AND POLLUTION CONTROL

MATTHEW C. PILZYS, FINANCIAL MANAGEMENT OFFICER, DIVISION OF WATER SUPPLY AND POLLUTION CONTROL

DR. ROBERT J. ANDERSON, CHIEF, BUREAU OF STATE SERVICES

PETER J. BERSANO, FINANCIAL MANAGEMENT OFFICER FOR ENVIRONMENTAL HEALTH PROGRAMS

DR. LUTHER L. TERRY, SURGEON GENERAL

HARRY L. DORAN, CHIEF FINANCE OFFICER

JAMES M. QUIGLEY, ASSISTANT SECRETARY

JAMES F. KELLY, DEPARTMENT BUDGET OFFICER

Object classification

[In thousands of dollars]

		1963 actual	1964 estimate	1965 estimate
11	Personnel compensation:			
	Permanent positions	6,018	8,150	9,460
	Positions other than permanent	340	308	343
	Other personnel compensation	24	76	55
	Total personnel compensation	6,382	8,534	9,858
12	Personnel benefits	893	1,180	1,343
21	Travel and transportation of persons	860	1,077	1,185
22	Transportation of things	114	172	266
23	Rent, communications, and utilities	316	429	546
24	Printing and reproduction	158	196	209
25	Other services	783	800	1,217
	Research contracts	768	600	600
	Services of other agencies	522	640	1,146
	Contracts for construction			1,100
	Payment to—			
	Bureau of State Services management fund	1,146	1,365	1,372
	National Institutes of Health management fund	42	56	68
26	Supplies and materials	663	776	865
31	Equipment	1,719	884	1,193
32	Lands and structures	7		
41	Grants, subsidies, and contributions	9,840	12,328	13,452
	Total obligations	24,213	29,037	34,420

Personnel summary

	1963 actual	1964 estimate	1965 estimate
Total number of permanent positions	1,138	1,338	1,561
Full-time equivalent of other positions	50	45	52
Average number of all employees	1,012	1,232	1,365
Employees in permanent positions, end of year	1,049	1,338	1,559
Employees in other positions, end of year	104	49	51
Average GS grade	7.6	7.7	7.8
Average GS salary	$7,072	$7,384	$7,417
Average salary of ungraded positions	$5,480	$5,336	$5,336

Program and financing

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
Program by activities:			
1. Grants:			
(*a*) Research	3,236	4,229	5,210
(*b*) Fellowships	282	474	617
(*c*) Training	1,100	2,000	2,000
(*d*) Control programs	4,722	5,000	5,000
(*e*) Demonstration	500	625	625
2. Direct operations:			
(*a*) Comprehensive planning	4,199	5,577	6,821
(*b*) Enforcement	2,689	3,642	3,718
(*c*) Research, training, and technical services	6,506	8,366	9,866
Total program costs, funded [1]	23,234	29,913	33,857
Change in selected resources [2]	979	−876	563
Total obligations	24,213	29,037	34,420
Financing:			
Comparative transfers to and from other accounts	21	23	------
Unobligated balance lapsing	434	------	------
New obligational authority	24,668	29,060	34,420
New obligational authority:			
Appropriation	24,707	28,980	34,420
Transferred to "Operating expenses, Public Buildings Service," General Services Administration (76 Stat. 728 and 77 Stat. 436)	−39	−50	------
Appropriation (adjusted)	24,668	28,930	34,420
Proposed transfer from "National Heart Institute" due to Uniformed Services pay act of 1963	------	130	------

[1] Includes capital outlay as follows: 1963, $1,414,000; 1964, $1,189,000; 1965, $1,200,000.

[2] Selected resources as of June 30 are as follows: Unpaid undelivered orders, 1962, $869,000 (1963 adjustments, −$81,000); 1963, $1,767,000; 1964, $891,000; 1965, $1,454,000.

Mr. FOGARTY. Mr. McCallum, I think you are next. Do you want to tell us about water supply and water pollution control?

GENERAL STATEMENT

Mr. MCCALLUM. Mr. Chairman and members of the committee, I have a statement to file with your committee. So with your permission, I will summarize this statement.

This Nation is faced with the problem of maintaining and increasing the usefulness of a relatively fixed volume of water to meet an ever-increasing demand. It is increasingly apparent that we can do this only by using the same water over and over again. This, in turn, is possible only if we continue and expand our water pollution control efforts.

The urgency of this problem is reflected by the recommendations continuously being made by Government agencies and public groups. This year, one of the most recent of these recommendations was made by the Special Subcommittee on Air and Water Pollution of the Senate Committee on Public Works. In summarizing its study of the national water pollution problems, it pointed to—

> * * * the compelling need for major new efforts in the reduction and prevention of water pollution.

1965 BUDGET BY ACTIVITY

The Federal Water Pollution Control Act provides a broad base for dealing with water problems. The 1965 budget of $34,420,000 represents a net increase of $5,383,000, an increase necessary if the program is to move ahead toward overcoming the water pollution problem.

Grant-in-aid programs represent 39 percent of this increase. There is included $13.5 million for these programs, a net increase of $1.1 million. These grants encourage and support institutions, scientists, and engineers who are conducting studies related to water pollution and provide support for advanced training of outstanding scientists and engineers.

For direct operations, the budget of $21 million includes a net increase of $4.3 million as follows:

The comprehensive program includes an increase of $1.8 million to expand four existing projects and initiate one new project; covering the Tri-State/New York metropolitan area.

For enforcement activities, an increase of $223,000 is necessary to expand two new major onsite projects started in 1965 and finance additional surveys which may be generated as a result of increased activity in this field.

Our research, training, and technical services require an additional $2.2 million. Included in this increase are funds to initiate activities for the four water pollution control field laboratories to be located at Ada, Okla.; Athens, Ga.; Corvallis, Oreg.; and College, Alaska; and the National Water Quality Standards Laboratory at Kingston, R. I. These will be operational before the end of calendar year 1965. This request will also permit establishing a nucleus staff for laboratories at Boston, Mass.; Ann Arbor, Mich.; and Duluth, Minn., to be completed subsequently. The recruitment of key professional staff to man the laboratories to be located in Ada and Athens was started in response to the Senate report on the Department's 1964 appropriation bill.

Included are funds to expand the acid mine drainage project. Acid mine drainage was cited by the Senate Select Committee on National Water Resources as one of the major uncontrolled types of pollution. The control of this pollution will be a significant factor in the economic rehabilitation of the Appalachian region. These funds will support other projects such as the Klamath River study, pesticides pollution studies, and the Cooper River-Charleston Harbor survey.

A balanced and effective program for meeting national water supply and pollution control needs requires concerted action on a number of fronts as prescribed by the Federal Water Pollution Control Act. New knowledge on unsolved problems must be sought through research. Existing knowledge must be put into effect through technical assistance and demonstrations. Planning must be done to anticipate and make provision for meeting future water needs. Regulatory actions must be undertaken where required. An adequate supply of professional personnel must be trained to carry out these functions. The program outlined in this budget request is designed to meet these needs.

Mr. Chairman, I shall be glad to answer any questions I can which you or the other members of the committee may wish to ask concerning this program or the budget request.

SUMMARY OF BUDGET FOR 1965

Mr. FOGARTY. Thank you.

The appropriation for 1964 is $28,980,000 and the request for 1965 is $34,420,000, an increase of $5,440,000 and 223 positions.

REPROGRAMING OF 1964 FUNDS

Now, before we go into details of your 1965 request, we had better have an explanation of the reprograming of your 1964 appropriation.

SECRETARY'S LETTER

We will put the Secretary's letter explaining this in the record at this point.

(Secretary's letter follows:)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,
January 17, 1964.

Hon. JOHN F. FOGARTY,
Chairman, Subcommittee on Departments of Labor and Health, Education, and Welfare and Related Agencies, Committee on Appropriations, House of Representatives, Washington, D.C.

DEAR MR. FOGARTY: This is to inform you of our plans for programing the funds included in the Appropriation Act for 1964 for the water supply and water pollution control activities. The enclosed tables show the distribution of the entire appropriation of $28,980,000, as well as the distribution of $5,201,000 allocated for the comprehensive river basin program.

You will note we are proposing to carry forward our comprehensive studies in the following river basins: Chesapeake Bay-Susquehanna, Columbia, Great Lakes-Illinois, Delaware Estuary, and the Ohio River which is programed for $500,000 as required by the appropriation act. We are also initiating the southeastern river basin study at a level of $200,000. There will be no other new starts in 1964.

In addition, we have made provision to program $100,000 for the early recruitment of key personnel for the Athens, Ga., Ada, Okla., and Corvallis, Oreg.. laboratories and to institute two special water pollution control projects for which recent developments have created an urgent need.

One of these projects will be a study to develop specific measures to control pollution in the Klamath Basin located in the States of California and Oregon. Attention was focused on water pollution in this area because of fish kills. wildfowl kills, human dermatitis, and other problems. Many people are gravely concerned with this problem. We have been requested to do this study by the Senate of the California Assembly, Klamath County commissioners, and others.

The other is a project to demonstrate acid mine drainage control and abatement. Acid pollution destroys fish and fish food organisms, prevents use of streams for recreational purposes, corrodes transportation equipment, necessitates expensive treatment procedures for water that must be utilized for municipal and industrial purposes, and creates unsightly esthetic conditions because of the prevalence of a precipitated red iron oxide.

A report prepared at the request of the Committee on Public Works, House of Representatives, during the 1st session of the 87th Congress recommended that implementation of a program to deal with this problem be preceded by demonstrating methods for acid mine drainage control. Therefore, we are initiating one demonstration project in Pennsylvania.

To finance the two special projects we are reprograming funds from the comprehensive program to the technical assistance program.

If there are any questions, we will be glad to furnish you additional information.

Sincerely.

ANTHONY J. CELEBREZZE, *Secretary.*

WATER SUPPLY AND WATER POLLUTION CONTROL

Obligations by activity

	President's budget		1964 House allowance		1964 Senate allowance		1964 final congressional action		1964 after reprograming	
	Positions	Amount	Positions	Amount	Positions	Amount	Positions	Amount	Positions	Amount
1. Grants:										
Research		$4, 288, 000		$4, 229, 000		$4, 229, 000		$4, 229, 000		$4, 229, 000
Fellowship		450, 000		450, 000		450, 000		450, 000		450, 000
Training		2, 000, 000		2, 000, 000		2, 000, 000		2, 000, 000		2, 000, 000
Control program		5, 000, 000		5, 000, 000		5, 000, 000		5, 000, 000		5, 000, 000
Demonstration		625, 000		625, 000		625, 000		625, 000		625, 000
Total, grants		12, 363, 000		12, 304, 000		12, 304, 000		12, 304, 000		12, 304, 000
2. Research, training, technical services, and enforcement:										
Comprehensive program for water pollution control	474	6, 540, 000	366	4, 540, 000	474	6, 540, 000	416	5, 499, 000	404	5, 201, 000
Enforcement of water pollution control	304	3, 624, 000	304	3, 624, 000	304	3, 624, 000	304	3, 624, 000	304	3, 624, 000
Research	200	2, 991, 000	200	2, 991, 000	205	3, 031, 000	209	3, 063, 000	209	3, 063, 000
Collection, analysis, and dissemination of basic data	121	1, 350, 000	121	1, 350, 000	121	1, 350, 000	121	1, 350, 000	121	1, 350, 000
Technical services	156	1, 665, 000	156	1, 665, 000	158	1, 684, 000	159	1, 693, 000	171	1, 991, 000
Construction grant services	127	1, 447, 000	127	1, 447, 000	127	1, 447, 000	127	1, 447, 000	127	1, 447, 000
Total, research, training, technical services, and enforcement	1, 382	17, 617, 000	1, 274	15, 617, 000	1, 389	17, 676, 000	1, 336	16, 676, 000	1, 336	16, 676, 000
Total obligations	1, 382	29, 980, 000	1, 274	27, 921, 000	1, 389	29, 980, 000	1, 336	28, 980, 000	1, 336	28, 980, 000

Comprehensive program, fiscal year 1964

[Dollars in thousands]

	President's budget		1964 House allowance		1964 Senate allowance		1964 final congressional action		1964 after reprograming	
	Positions	Amount	Positions	Amount	Positions	Amount	Positions	Amount	Positions	Amount
Basic program	66	$680	66	$680	66	$680	66	$680	66	$680
Arkansas Red	7	115	7	115	7	115	7	115	7	115
Chesapeake Bay-Susquehanna	61	900	25	268	61	900	40	509	37	400
Columbia	35	400	31	282	35	400	35	400	35	380
Great Lakes-Illinois	213	2,785	213	2,785	213	2,785	213	2,785	198	2,636
Delaware Estuary	18	310	18	310	18	310	18	310	18	290
Ohio	26	500	6	100	26	500	26	500	32	500
Southeastern	11	200			11	200	11	200	11	200
New England	9	150			9	150				
Tri-State	20	400			20	400				
Lower Missouri, Red River of the North and Souris	8	100			8	100				
Total	474	6,540	366	4,540	474	6,540	416	5,499	[1] 404	[1] 5,201

[1] See the following:

	Positions	Amount
Conferee action	416	$5,499
Less:		
Acid mine drainage	−7	−250
Klamath River project	−5	−48
Total	404	5,201

OCTOBER 15, 1963.

To: The Secretary.
From: James F. Kelly, Comptroller.
Subject: Reprograming 1964 funds to initiate a Klamath Basin project and an acid mine drainage control and abatement demonstration.

DISCUSSION

A. Klamath Basin project

The Division of Water Supply and Pollution Control proposed a new study directed to the problems of pollution of the natural streams or lakes in the Klamath Basin, crossing the State boundaries of California and Oregon. It was proposed to conduct this study in the area of the Klamath River wildfowl refuge where fish kills and wildlife kills, human dermatitis and many other problems have occurred. Representative Ullman, of Oregon, and the Senate of the California State Assembly evinced a keen interest in seeing that this project got underway.

Funds for this purpose were included in the Department's request to the Bureau of the Budget for 1964; however, the Bureau of the Budget specifically disallowed this project on the basis of low priority and the Department of the Interior's objection on the grounds that the project was an infringement of their responsibilities. Subsequent to the Bureau of the Budget submission but prior to their decision, the Surgeon General, in response to an inquiry from Representative Ullman, informed him that this item was included in our 1964 request. Hearing of the deletion, Representative Ullman contacted the White House and informed them of the Surgeon General's letter and the fact that he had released notices of the Government's plan for conducting the study. In view of these actions the Bureau of the Budget has informed us that the Klamath project is to be considered as part of our 1964 program without any additional increase in funds.

B. Demonstration of acid mine drainage control and abatement

As you know, Public Health Service submitted a proposal early this year to submit a 1964 budget amendment for $1 million to initiate a program of demonstration of methods for controlling acid mine drainage in Pennsylvania, West Virginia, and Ohio or Kentucky. In reviewing their proposal you concluded it would be inappropriate to submit a budget amendment.

However, in view of the importance of initiating this program in 1964, you requested the Surgeon General to reprogram the regular 1964 appropriation when it becomes available to provide approximately $250,000 to initiate one project. This reprograming is in response to your request and the plan is to initiate this project in Pennsylvania.

C. Funding

The cost of these projects, $48,000 for the Klamath Basin and $250,000 for the acid mine drainage project, or a total of $298,000, will be financed by reprograming funds from the increase allowed for the comprehensive studies. The major portion of these funds will be reprogramed from the Chesapeake-Susquehanna River and the Great Lakes-Illinois River Basin studies. The proposed budget for 1965 includes $102,000 for the Klamath Basin and $1 million for the acid mine drainage project.

These letters being sent to the chairmen of our Subcommittees on Appropriations are to inform them of the effect of final congressional action and the inclusion of these projects in the budget plan. It is important that they be made aware of these changes.

RECOMMENDATION

That you sign the letters (tab A and tab B) informing the chairmen of our Subcommittees on Appropriations of the change in the 1964 budget plan for water supply and water pollution control.

Mr. FOGARTY. Now tell us why you think this was necessary and how it will result in a more efficient use of funds, if you think it will, and why you were not able to budget these funds this way when you made up the 1964 budget.

Mr. MCCALLUM. First, these are two projects financed under our technical assistance program.

KLAMATH RIVER STUDY

The Klamath River study was requested by the States of Oregon and California, as a result of serious pollution in the Klamath River causing extensive wildlife kills, aquatic life kills, and adverse effects on human health.

When this was brought to our attention, which was subsequent to the development of the 1964 budget, it seemed to us that it was sufficiently serious to respond to the request for assistance.

ACID MINE DRAINAGE PROJECT

The acid mine drainage project resulted from a request by the House Public Works Committee in Report 306, in which the Secretary of Health, Education, and Welfare was asked to report to the committee on the acid mine pollution problem and make recommendations for relief measures.

This the Secretary did, and the report is available in House Committee Print No. 18. The recommendations included a three-point concurrent program for dealing with this problem. First, a program of sealing abandoned mines and other drainage openings; second, a stepped-up research program in cooperation with Federal, State, and interstate agencies for developing other means of controlling acid mine pollutions in cases where sealing is not practicable or effective; and third——

Mr. Fogarty. Well, in this second one, where did you get the money, and how much is it going to cost?

Mr. McCallum. We are not into that phase of the recommendations yet, Mr. Chairman.

Mr. Fogarty. Oh.

Mr. McCallum. Third, a program for the regulation of stream and acid flow in cases where no other means of controlling the acid pollution could be employed.

The Secretary, in making these recommendations, indicated that before such a three-point program was launched, projects should be undertaken to demonstrate procedures and results of acid mine drainage control.

In the reprograming letter, it was indicated that the site would be in the State of Pennsylvania. However, the Secretary had initiated an enforcement action on the Monongahela River and it had been——

Mr. Fogarty. In Pennsylvania?

Mr. McCallum. Between Pennsylvania and West Virginia.

It had been indicated that acid pollution was a problem and that a significant portion of the acid pollution is believed to come from abandoned mines in the State of West Virginia. Therefore, to expedite a complete remedial program for this action, we changed the proposed site of the project from Pennsylvania to West Virginia. We hope this will help to solve the acid mine drainage problem that had been brought before the conference in this enforcement case.

Mr. Kelly. Mr. Chairman, the reprograming letter referred to Pennsylvania. When it was determined to change to West Virginia, we determined whether to modify the letter. We thought this hearing would be an appropriate opportunity to call your attention to this change.

Mr. Fogarty. Have you made the move?

Mr. McCallum. We are now in the process of selecting a site and should have one selected within the next week or so. We have visited several sites, and have narrowed it down now to three locations.

Comprehensive Planning for River Basins

Mr. Fogarty. Your largest increase is $1,838,000 and 76 positions for expansion of the comprehensive program. Tell us what you are doing now and what you will do if you get this increase.

Mr. McCallum. We now have six comprehensive programs underway. This increase will permit the expansion of four of these projects, the Susquehanna River, Chesapeake Bay, the Ohio River, the southeastern river basin, and the Columbia River, and also to initiate one new project in the tristate metropolitan area—parts of New York, New Jersey, and Connecticut.

MECHANISMS TO AVOID DUPLICATION OF EFFORT

Mr. Fogarty. How is your work integrated with the work of other agencies and how do you avoid duplication?

Mr. McCallum. Well, the Federal Water Pollution Control Act states that comprehensive programs are to be developed in cooperation with other Federal agencies, State agencies, municipalities, and industries. From the outset, we have consulted with and worked with the other Federal agencies. As a matter of fact, one of our criteria for developing the priority for projects is the need of the information by other Federal agencies, such as the Corps of Engineers, Bureau of Reclamation, and the Department of Agriculture.

There are a number of committees, both at headquarters and in the field, to help coordinate these programs. There now is a special committee on comprehensive river basin planning to coordinate budgeting and planning.

There are at least 15 committees in which we participate as a result of our program responsibilities. Some of the major ones are the Committee on Water Resources Research of the Federal Council of Science and Technology, the Ad Hoc Water Resources Council, which is comprised of the Secretaries of Interior, Army, Agriculture, and Health, Education, and Welfare. Then, the Interdepartmental Staff Committee of the Water Resources Council, and the Interagency Committee on Water Resources, which was formed in 1954.

(Note.—A comprehensive statement regarding the water programs of various Federal agencies appears beginning at p. 674.)

STATUS OF PLANNING FOR ALL BASINS

Mr. Fogarty. All right; now will you put in the record a statement showing the status of planning for all basins and schedule for the future in time and dollar costs?

Mr. McCallum. Yes, sir.

(The requested information follows:)

STATUS OF COMPREHENSIVE PLANNING FOR RIVER BASINS

Existing and proposed projects through fiscal year 1965

Project	Fiscal year started	Estimated cost through 1965
Chesapeake Bay-Susquehanna River Basin	1961	$1,719,000
Columbia River Basin	1961	1,399,000
Great Lakes-Illinois River Basins	1961	10,398,000
Delaware Estuary	1962	774,000
Ohio River Basin	1963	1,381,000
Southeastern Basin	1964	795,000
Tristate metropolitan area	1965	400,000

1. Chesapeake Bay-Susquehanna River Basin

Pioneering a newly developed method of automated information retrieval, the Chesapeake Bay-Susquehanna River Basin project has completed an analysis of all available data on water supply, use, and treatment in the Susquehanna sub-Basin. Taken together with the results of specific water quality measurements presently underway, this information will form the foundation for a sound comprehensive plan for controlling pollution. The project has already begun to develop similar data for the Chesapeake Bay portion of the study area.

Activities in 1964 will be concentrated in the Susquehanna River Basin and a field station will be opened in the Baltimore-Annapolis area to support the Chesapeake Bay phase of the study. In 1965 full-scale studies of the Chesapeake Bay area will be undertaken. Oceanographic activities will be expanded and a detailed study of the effects of waste nutrients on the biology of this area initiated.

2. Columbia River Basin

The Columbia River project has been highly successful in adapting computer techniques to comprehensive planning. Using a self-developed mathematical model to predict dissolved oxygen concentration under various conditions of waste loadings, waste treatment, and flow in the Willamette River sub-Basin, the project has obtained invaluable information regarding (1) waste treatment needs at specific locations, (2) requirements for flow regulation, and (3) the optimum future location of industrial plants.

During 1964 studies are being conducted to determine the effect of land management and irrigation practices on water quality in the Pacific Northwest. Most of its time will be devoted to studies of the Willamette and Upper Snake Basins. In 1965 its efforts will be extended to studies of the Upper Columbia, Puget Sound, Kootenai, Spokane, and Washington coastal basins.

3. Great Lakes-Illinois River Basins

The Great Lakes-Illinois River Basin project was acclaimed by a number of Government, scientific, and local groups for significant contributions toward pollution abatement. In response to a request from the U.S. Department of Justice, the project has submitted 17 separate volumes of data to the Supreme Court relating to current litigation on the diversion of Lake Michigan waters by the city of Chicago. This remarkable effort was accomplished as part of what has become the largest and most comprehensive study of current measurements ever undertaken in a major body of water. To date, the project's oceanographic investigations have resulted in a number of important findings concerning the influence of prevailing wind on water movement, clockwise and counterclockwise currents in Lake Michigan, the variability of the thermocline, large internal waves, and rotary currents.

Investigations in Lake Michigan and Lake Erie will be substantially completed by the end of fiscal year 1964 and studies in the Lake Erie drainage basin well advanced. A field station will be opened and studies initiated on Lake Ontario. The 1965 plan provides for intensive investigations in the Lake Ontario area and the initiation of activity for the Lake Huron study.

4. Delaware estuary

A mathematical model has been developed for use in the Delaware River estuary. This system, designed to accept a continuous feed-in of new data from monitoring stations, storm water overflow points, and treatment plants, will provide answers on the cost of attaining specific water quality objectives. For example, calculations carried out during the past year indicated that the minimum cost of a program to maintain a level of 2 mg/1 of dissolved oxygen in the estuary would be about one-third of the cost of obtaining 4 mg/1 of dissolved oxygen. Although work is continuing to perfect this mathematical model, all indications point to a significant breakthrough in the technique of comprehensive planning.

During 1964 an industrial waste study will be completed. Estuarine, economic, tidal current, and dye studies will continue and storm water overflow studies started. The intensive phase of these studies will crest in 1965.

5. Ohio River Basin

In 1963, a comprehensive water pollution control program was begun on the Ohio River Basin. A field office in Wheeling, W. Va., provided a base of operations for key staff to begin studies on the upper portion of the basin, where initial efforts have been concentrated in the collection of basic data on stream quality and sources of pollution. In 1964, the project expanded into the lower Ohio with the establishment of a field station at Evansville, Ind. This office will concentrate initially on cooperative activities with the Corps of Engineers in the Wabash River Basin.

In 1965 efforts will be expanded in both the upper and lower portions of the basin with primary emphasis in the upper portion. Instrumentation of the upper Ohio for collection of water quality data will be completed and intensive investigations on the Kanawha River will continue.

6. Southeastern Basin

This project initiated in 1964 has concentrated on assembling a professional staff and developing detailed working plans for the Apalachicola-Chattahoochee-Flint Basins and the Pearl, Big Black, and Pascagoula Rivers. Field studies in these areas will commence in 1965.

7. Tristate metropolitan area

This project is a new start proposed for 1965. The projected growth and complexity of the area presents a challenge which will require a major effort if adequate answers are to be found to its problems. The 1965 efforts will be directed towards assembling staff, preparing detailed project operation plans, assembling, and analyzing existing data, initiating economic and demographic studies and starting engineering and laboratory studies of the estuary, harbor and bight areas. The tristate project includes the Hudson River watershed (which encompasses the Mohawk Valley and Lake Champlain), the New York harbor area and tributaries, Long Island, and portions of the coastal areas of New Jersey and Connecticut.

Completed project

Project	Started	Fiscal year completed	Total cost
Arkansas-Red River Basin	1958	1963	$1,882,000

This was the first comprehensive river basin project undertaken by Public Health Service in which the intensive investigation phase has been completed. The final report is now being reviewed by other Federal agencies and will be transmitted to Congress. The report identifies 15 significant and 9 minor sources of natural mineral pollution causing the deterioration of water quality in several thousand miles of rivers, the effect on water quality of control at various sites and recommends corrective measures.

It also indicates that if the water quality of the two river systems is improved sufficiently to meet future requirements, the ultimate value of the benefits will be over $13 million annually.

The Corps of Engineers is currently building an impoundment at Estelline Spring, Tex., for initiating control work on an experimental basis.

The activities of the project will now be directed toward the management phase which will include monitoring waste quality to determine effectiveness of control measures as they are implemented so as to be in a position to suggest modifications of the plans when applicable to increase effectiveness as work progresses.

Schedule and projected costs

Public Health Service is currently conducting a thorough reevaluation of the projected costs, duration, and scope of proposed comprehensive water pollution control projects for each of the Nation's major river basins. The reevaluation at this time is appropriate for two reasons.

(*a*) Public Health Service, now having several years of experience in developing comprehensive water pollution control plans, can more effectively and efficiently plan its project schedules and costs to take maximum advantage of manpower, equipment, and other available resources.

(*b*) It enables the Public Health Service to be responsive to the concern over the magnitude of estimated costs for comprehensive water resources planning by Federal water agencies expressed by the Bureau of the Budget and the Appropriations Committee on Public Works of both the House and Senate. However, it should be noted that the Bureau of the Budget's response to the Senate committee on this subject indicated that only that portion of costs which is related to water quality and water supply studies as they concern the construction of dams and carried out by the Public Health Service for the other Federal water agencies is applicable. This portion is estimated to be about 10 percent of the Public Health Service costs for comprehensive water pollution control program development.

Since this reevaluation will result in a new schedule, those in the past are no longer applicable. As soon as it is completed, a new schedule and projected costs will be presented to the committee.

The following are the projects to be undertaken in the future:

New England
Central Pacific drainage basins
Upper Mississippi
Western Gulf
Alaska
Middle Atlantic drainage basins
Lower Mississippi
Lower Missouri—Red Rivers of the North and Souris
Hawaii
Great Basin

The Colorado River has been excluded from comprehensive planning since it is being extensively studied as a result of an enforcement action and, when completed, will provide adequate data to establish a comprehensive plan.

ARKANSAS-RED RIVER BASIN PROJECT

Mr. FOGARTY. To illustrate the value of this work, will you take the Arkansas-Red River Basin that was completed in 1963 and tell us the value of the final report?

Mr. McCALLUM. The final report?

Mr. FOGARTY. And how much did we spend on that project?

Mr. PILZYS. $1.9 million, sir.

Mr. McCALLUM. The final report is now being reviewed by other Federal agencies and, as soon as we have their comments, they will be submitted to the House and Senate.

Mr. FOGARTY. Will you tell us offhand what you think some of the value of that project is?

Mr. McCALLUM. For the first time, we have pinpointed and identified the sources of natural brine causing the pollution of several thousand miles of those rivers. We have also found that a very small amount of brine, in a very few places, is despoiling about 30 million acre-feet of water. This means a great deal to the economy of the Southwest.

We found 15 major sources of brine pollution and several minor sources.

Mr. FOGARTY. How will you get rid of it? You had problems on that I remember.

Mr. McCALLUM. Yes. Right now the Corps of Engineers has two demonstration or pilot projects, one at Estelline, Tex., and one at Guthrie, Tex., in which they are trying to stop salt springs. These springs alone put about 750 tons of salt a day into the Red River. This is one of the reasons why Lake Texoma water has never been attractive to industry.

If we can keep this salt out of the Arkansas and Red Rivers, we estimtae an annual benefit of $13 million a year.

There have been a number of proposals as to how this problem might be handled. One is the construction of a pipeline to the Gulf of Mexico.

Mr. FOGARTY. I think that was talked about last year, was it not?

Mr. McCALLUM. I think that comes up periodically. Other suggestions have been made to prevent the ground water from moving through the strata that contains the minerals.

Mr. FOGARTY. You have not had much success with that, as I remember.

Mr. McCALLUM. That has not been undertaken yet. That is speculative.

It will be an economic decision in the final analysis as well as an engineering one.

Mr. FOGARTY. I think I heard the Army Engineers talk about it in their hearings last year.

Mr. McCALLUM. Yes, they have appropriations for investigating it.

PROGRAM IN EVANSVILLE

Mr. FOGARTY. Now, I notice on page 124, you will use some of these funds to expand the Evansville staff. How many people do you have there now and how many do you propose to add?

Mr. McCALLUM. We have three and we proposed to add seven.

Mr. FOGARTY. What are they going to do?

Mr. McCALLUM. We will use them to expand the Ohio River comprehensive program on the lower Ohio. We have the Ohio River project split into two sections; the upper Ohio, operating from a field station in Wheeling, W. Va., and the lower Ohio, operating out of a field station in Evansville, Ind.

Mr. FOGARTY. Have you any idea how much the Federal Government is spending on the Ohio River now? It seems to me, from the hearings of the Army Engineers, the Ohio River is getting a big percentage of the money these days. It used to be the Mississippi and Arkansas Rivers; now everything seems to be in the Ohio River Basin and the Ohio River itself.

Mr. McCALLUM. I do not know just what the other agencies are spending. I do know that——

Mr. FOGARTY. The Army Engineers are spending a terrific amount of money on the Ohio River.

Mr. McCallum. The Army asked us or requested us to undertake our program on the Ohio at this time, because they wanted the information we could get on what we expect in terms of water quality.

Mr. Fogarty. Well, the main thing I do not like is we spend these Federal funds on something like this and then they start advertising that power is cheaper and water transportation is cheaper and, as a result, the New England States lose many of their industries to areas like this. But that is not your problem.

ACID MINE DRAINAGE CONTROL

The next largest increase is $1,321,000 for acid mine drainage control. Tell us why you feel this is so important. Where is this problem?

Mr. McCallum. Generally in what we refer to as the Appalachian region. It is one of the major noncontrolled sources of water pollution in this country.

Mr. Fogarty. If you get these funds, what will you do with them?

Mr. McCallum. They will be used for demonstration projects. A major portion of these funds will be used for engineering design and construction of control measures, such as sealing mines, equalizing reservoirs, and diversion of surface and ground waters.

Mr. Fogarty. Why should this not be done by the Bureau of Mines?

Mr. McCallum. They are cooperating with us.

Mr. Fogarty. How much are they spending? How much are you putting up and how much are they putting up?

Mr. Kelly. May I say that this project we have before you in this budget was a project that was worked out jointly with the Bureau of Mines and the Water Supply and Water Pollution Division. The total cost of the project is included in our budget, but with an understanding between us and the Department of Interior and the Bureau of the Budget that it will be a combined operation between us and the Bureau of Mines, and part of the work is theirs and part is ours.

Mr. Fogarty. What part?

Mr. Kelly. The 1965 estimate that we have before you is $1.5 million.

Mr. Pilzys. $1,540,000.

Mr. Fogarty. How much is it going to cost for the entire project? Have you any idea?

Mr. McCallum. Yes, the report submitted to the House Public Works Committee estimated $5 million.

Mr. Fogarty. You are going to pay half and the Bureau of Mines will pay half?

Mr. McCallum. No. We plan to budget for all of it.

Mr. Fogarty. Why should the Bureau of Mines not pay some of this?

Mr. Kelly. Again, it would be awkward for them to budget for part of the project and for us to budget for part of the project and then have the Congress come out with different conclusions. So the conclusion was we would come before you and ask for the $1.5 million necessary to carry out the total project, but in that total project, there is $160,000 for the operation, administration, and technical services of the Department of Health, Education, and Welfare; and $200,000 is the cost of the Bureau of Mines technical operation; $80,000 for Geological Survey; and $1.1 million as the contract construction cost for carrying out the work.

This way we felt that the Congress would have an opportunity to consider the total project, including all of the participation by all of the affected Government agencies.

Mr. Fogarty. This was reprograming, was it not?

Mr. Kelly. The activity gets started in fiscal year 1964 through the reprograming activity; yes, sir.

RESEARCH GRANT PROGRAM

Mr. Fogarty. Now I notice you deviate from the usual pattern in that you have a real increase in the research grant program. You must be standing in pretty good with somebody. An increase of $981,000 that will permit you to fund 49 more projects than this year and 26 more new projects than this year. This is the best news we have seen in the whole Public Health Service.

Mr. McCallum. We are pleased to have the increase, Mr. Chairman. That, however, will not take care of our anticipated backlog.

BACKLOGS

Mr. Fogarty. Well, tell us about your backlog. How much would you need to take care of it?

Mr. McCallum. We anticipate a backlog of 63 projects at the end of 1965.

Mr. Fogarty. How much money?

Mr. McCallum. About $1.2 million.

Mr. Fogarty. So even with this increase, you are still way behind?

Mr. McCallum. Yes. There will be a substantial backlog.

Mr. Fogarty. What are other projects you are not going to be able to fund that you think should be funded?

Mr. McCallum. We will have in training grants a backlog of 25 at the end of 1965; and in demonstration grants, a backlog of 16.

Mr. Fogarty. I thought you would have more.

Mr. McCallum. That is an estimate at this time.

Mr. Fogarty. It could be higher?

Mr. McCallum. Could be higher.

REDUCTION IN ORIGINAL REQUEST

Mr. Fogarty. Well, I thought this looked pretty good. But then when I look at this other table, it shows that you asked for $38.7 million, the Department cut you back to $37.5 million. What did they cut you back over $1 million for?

Mr. McCallum. $134,000 was research grants; $1 million on the comprehensive program.

Mr. Fogarty. The Department cut that? The President's budget cuts you down to $34.4 million. That is $4 million less than you asked for.

Mr. McCallum. Yes; that is correct, sir.

Mr. FOGARTY. Have you changed your mind or do you still think $38.7 million was a firm figure?

Mr. McCALLUM. In developing estimates, we always use the best information, best judgment available to us at the time.

Mr. FOGARTY. Is that estimate as firm today as it was 3 or 4 months ago, or whenever it was when you came up with it?

Mr. McCALLUM. We certainly could make good use of the money; yes, sir.

Mr. FOGARTY. Supply for the record a statement of things you are not going to be able to do because of the cut the Department made in your request, and also the cut that the President's budget made.

Mr. McCALLUM. Yes, sir.

Mr. FOGARTY. And how it will slow up the projects in this area.

(The requested information follows:)

DIVISION OF WATER SUPPLY AND POLLUTION CONTROL

Effect of Department and Bureau of the Budget reductions for 1965

	PHS request to Department		Department allowance		Bureau of Budget allowance		Total decrease	
	Positions	Amount	Positions	Amount	Positions	Amount	Positions	Amount
Total	1,891	$38,700,000	1,837	$37,566,000	1,561	$34,420,000	−330	−$4,280,000
Grants	------	13,371,000	------	13,237,000	------	13,452,000	------	+81,000
Research	------	5,129,000	------	4,995,000	------	5,210,000	------	+81,000
Fellowship	------	617,000	------	617,000	------	617,000	------	----------
Training	------	2,000,000	------	2,000,000	------	2,000,000	------	----------
Control	------	5,000,000	------	5,000,000	------	5,000,000	------	----------
Demonstration	------	625,000	------	625,000	------	625,000	------	----------
Direct operations	1,891	25,329,000	1,837	24,329,000	1,561	20,968,000	−330	−4,361,000
Comprehensive planning	624	9,590,000	570	8,590,000	479	7,018,000	−145	−2,572,000
Enforcement	339	3,890,000	339	3,890,000	329	3,826,000	−10	−64,000
Research, training, and technical services	928	11,849,000	928	11,849,000	753	10,124,000	−175	−1,725,000

Department reduction, $1,134,000

Research grants, —$134,000.—These grants are awarded to investigators in institutions and agencies to support independent research on scientific and engineering problems of water supply and pollution. The decrease eliminated the support of six grants, thereby increasing the backlog.

Comprehensive planning, —$1 million.—The proposed increase for 1965 was designed to initiate four new projects—lower Ohio, western gulf, Alaska, and central Pacific, and expand four new projects that were proposed in the President's budget for 1964—lower Missouri (including Red River of the North and Souris), New England, southeastern, and the tristate metropolitan. It would have also permitted the expansion of other projects approved in prior years to meet the projected schedule for completing these comprehensive water pollution control studies.

Congress, in acting on the 1964 budget, reduced the comprehensive planning funds by $1 million. This eliminated three of the four proposed new starts and reduced the planned expansion of existing projects. This action forced a revision in Public Health Service plans for 1965, which resulted in the $1 million reduction and eliminated 54 positions.

Bureau of the Budget reduction, $3,146,000

Comprehensive planning, —1,572,000.—The reduction eliminated three new projects—New England, central Pacific and lower Missouri and the planned expansion of existing projects such as the Great Lakes and Ohio River. It also resulted in a reduction of 91 positions. This reduction, in addition to the congressional action on the 1964 budget proposal plus other factors, has caused Public Health Service to currently reevaluate its schedule and scope of work for these activities. These actions will delay the projected schedule for completing these studies.

Enforcement, —$64,000.—This reduction, including 10 positions, primarily represented the need to establish an enforcement staff for four of the seven field laboratories authorized for the Division of Water Supply and Pollution Control. This staff would have been available to work with the technical staff in the laboratories who will provide support for enforcement actions, when necessary. This action eliminated the advance staffing plan in 1965 for this activity.

Research, training, and technical services, —$1,725,000.—The reduction was primarily directed at the proposed plan for staffing the laboratories, and expansion of the acid mine drainage projects and the sampling stations of the basic data activity.

The 1965 request included a total of 258 positions and $1 million to commence staffing the field laboratories and the National Water Quality Laboratories for the research, basic data, technical assistance, and training activities, where applicable. The estimate was based on employing staff at a rate which would enable the program to have about 50 percent of the planned strength on duty in each laboratory that was anticipated to be completed in calendar year 1965. It also provided for increasing or establishing a nucleus staff for those laboratories to be completed in 1966 or later. However, the President's budget provides for 93 such positions, or a reduction of 165 from that requested. Therefore the laboratories will not be fully operational for several years.

The Department of Interior and the Public Health Service developed a joint budget proposal of $2,500,000 and 17 positions for Public Health Service for demonstrating methods of controlling and abating acid mine drainage. This is one of the major uncontrolled types of pollution currently existing. As a result of congressional interest and the concern about the problems of the Appalachian States, it was essential that some action be taken to demonstrate methods for solving this problem. The joint budget proposal included funds to initiate and/or continue the effort started in 1964 in three locations—West Virginia, Pennsylvania, and eastern Ohio or Kentucky. The reduction of $960,000 and five positions will only permit activity in two locations—West Virginia, which is being initiated in 1964, and Pennsylvania, to be initiated in 1965. The demonstration in the third location had to be deferred.

The 1965 request also included five positions and $150,000 to expand the number of sampling stations and related staff services necessary to provide information relating to the effects of water use on water quality and to provide continuing data on the nature of pollutants. These sampling stations are needed to support the development of comprehensive water pollution control programs, enforcement activities, and also assist State, interstate, and other agencies in their control programs. The budget proposed increasing the system from the existing 128 to a total of 148 or an increase of 20. This entire request was denied.

ENFORCEMENT ACTIVITIES

Mr. Fogarty. You have a net increase of $223,000 and 27 positions for enforcement activities. You have been really stepping up these activities. I notice in the justifications you have a total of 29 actions in the 7 or 8 years prior to December 31, 1963, but 9 of these were in the last 6 months of that period. What happened?

Mr. McCallum. Of all of these enforcement cases, slightly less than half of them have been initiated at the request of the States and over half initiated by the Secretary on the basis of the discretionary authority vested in him by the act.

I believe that nationally, water pollution has become a more recognized problem, certainly much more in the public press.

Mr. Fogarty. Tell us about the pending cases and those that have been recently settled.

Mr. McCallum. We have initiated in 1964 two major studies which are necessary to get additional information to come up with firm recommendations for a remedial program; they are on the South Platte River and upper Mississippi River.

Mr. Fogarty. Give us a breakdown of all these cases: How many additional personnel? How much money you had to spend for all these cases and the results. Give it to us case by case.

Mr. McCallum. The nine?

Mr. Fogarty. Name and briefly describe all of them, but give complete details on those nine.

(The requested information follows:)

DIVISION OF WATER SUPPLY AND POLLUTION CONTROL

Status of all enforcement actions, funding, and personnel requirements

Enforcement actions through June 30, 1963:

Action area	*Disposition*
1. Corney Creek (Ark.-La.)	Remedial program implemented.
2. Big Blue River (Nebr.-Kans.)	Do.
3. Missouri River, St. Joseph, Missouri area (Missouri-Kansas).	Remedial program established. Suit filed by United States against city of St. Joseph. Court order issued Oct. 31, 1961 against the city.
4. Missouri River, Omaha, Nebr. area (Nebraska - Kansas - Iowa - Missouri).	Remedial program established.
5. Potomac River, Washington metropolitan area (District of Columbia-Maryland-Virginia).	Do.
6. Missouri River, Kansas City metropolitan area (Missouri-Kansas).	Do.
7. Mississippi River, St. Louis metropolitan area (Missouri-Illinois).	Do.
8. Animas River (Colo.-N. Mex.)	Remedial program implemented.
9. Missouri River, Sioux City area (South Dakota-Iowa-Nebraska).	Remedial program established.
10. Columbia River (Wash.-Oreg.)	Do.
11. Bear River (Idaho-Wyo.-Utah)	Partial remedial program established. Special problems under consideration.
12. Colorado River (Colo.-Utah-Ariz. Nev.-Calif.-N. Mex.-Wyo.).	Pollution problems for entire area under investigation.
13. North Fork of the Holston River (Va.-Tenn.).	Feasibility of pollution control measures for 1 industry under investigation.
14. Raritan Bay (N.J.-N.Y.)	Pollution problems are under investigation.
15. North Platte River (Wyo.-Nebr.)	Remedial program established.
16. Puget Sound (Wash.)	Partial remedial program established. Pollution problems are under investigation.
17. Mississippi River, Clinton Iowa area (Illinois-Iowa).	Remedial program established.
18. Detroit River (Mich.)	Pollution problems are under investigation.
19. Androscoggin River (N.H.-Maine)	Remedial program established.
20. Escambia River (Ala.-Fla.)	No interstate pollution at the present time.

PERSONNEL AND FUNDING REQUIREMENTS RELATED TO ACTIONS TAKEN FROM 1956 THROUGH JUNE 30, 1963

Preenforcement investigations and participation in actual conference sessions are only a part, although significant, of the total functions and duties performed by the personnel involved in enforcement actions. Since the 20 actions reported above were taken during a span of 7 years, the investigation and conference costs and staff time applicable to each specific action are difficult to ascertain at this time. However, based on experience and knowledge of the program officials, the following estimates are provided. In the case of major enforcement projects, the situation is different. These projects involve extensive studies and investigations of areas having highly complex scientific and technical problems and, where extensive informational gaps exist, additional facts must be developed before remedial action programs can be established. They require several years to complete with resident staff at the action site to develop meaningful and conclusive data. Therefore, personnel needs are specific and costs identified accordingly.

Preenforcement investigations

Total number	3
Average number of personnel involved in each	8
Average length of investigation (weeks)	3
Average cost per investigation	$5, 568

Conferences (including initial and interim sessions)

Total number	35
Average number of personnel involved in each	11
Average cost per conference	$2, 906

Enforcement projects

1. Colorado River:	
(*a*) Peak number of personnel required	57
(*b*) Estimated cost through fiscal year 1965	$3, 262, 000
2. Raritan Bay:	
(*a*) Peak number of personnel required	30
(*b*) Estimated cost through fiscal year 1965	$1, 344, 000
3. Puget Sound (Washington State):	
(*a*) Peak number of personnel required	36
(*b*) Estimated cost through fiscal year 1965	$1, 500, 000
4. Detroit River:	
(*a*) Peak number of personnel required	28
(*b*) Estimated cost through fiscal year 1965	$941, 000

ENFORCEMENT ACTIONS JULY 1, 1963, THROUGH JANUARY 31, 1964

Coosa River, (Ga.-Ala.)

On July 5, 1963, the Secretary issued notices for a conference to be held August 27, 1963, at Rome, Ga. This conference, called by the Secretary on the basis of reports, surveys, or studies, resulted in the establishment of a remedial program and schedule for the municipalities and industries involved. In addition, a technical committee of the appropriate State and Federal agencies was set up to make specific recommendations on water quality management with reference to Federal and private impoundments and the Georgia Kraft Co.

1. Cost of investigation—preenforcement	$26, 593
2. Number of personnel involved in investigation	18
3. Length of survey (weeks)	6
4. Estimated conference cost	$2, 960
5. Number of employees involved in conference	17

Pearl River (La.-Miss.)

On August 7, 1963, the Secretary, on the basis of reports, surveys, or studies, called for a conference to be held October 2, 1963, in New Orleans, La. Among the recommendations unanimously agreed to by the conferees were:

(*a*) Construction of remedial facilities be started by the two municipalities by October 1965.

(*b*) A minimum of 4 parts per million dissolved oxygen be maintained during the fish spawning season, and 3 parts per million dissolved oxygen at all other times.

(*c*) The States of Mississippi and Louisiana will conduct a joint study of possible pollution of shellfish beds in the Mississippi Sound by the Pearl River System.

1. Cost of investigation—preenforcement	$19,130
2. Number of personnel involved in investigation	13
3. Length of survey (weeks)	4
4. Estimated conference cost	$4,022
5. Number of employees involved in conference	19

South Platte River (*Colo.*)

On July 18, 1963, the Governor of Colorado requested that the Secretary take action under section 8 of the act. The Secretary, in accordance with this request, on September 23, 1963, called a conference for October 29, 1963, in Denver, Colo.

In addition to the establishment of an onsite project, the conferees agreed to other conclusions and recommendations:

(*a*) The Metropolitan Denver Sewage Disposal District No. 1 to collect and provide secondary treatment for all wastes in its district, to be in operation by 1966.

(*b*) Commensurate schedules are to be adopted for the other communities and industries not in the Metropolitan Denver Sewage Disposal District.

(*c*) Additional State legislation may be necessary in order to achieve pollution abatement.

1. Cost of investigation—preenforcement	None
2. Number of personnel involved in investigation	None
3. Length of survey (weeks)	None
4. Estimated conference cost	$6,000
5. Number of employees involved in conference	16

Menominee River (*Mich.-Wis.*)

The Secretary on August 7, 1963, issued notices for a conference to be held at Menominee, Mich., on November 6, 1963. This conference, called on the basis of reports, surveys, and studies, resulted in the announcement of remedial programs and time schedules by the State agencies involved.

1. Cost of investigation—preenforcement	$12,000
2. Number of personnel involved in investigation	11
3. Length of survey (weeks)	2
4. Estimated conference cost	$6,000
5. Number of employees involved in conference	15

Connecticut River, Mass.-Conn.

On September 23, 1963, the Secretary on the basis of reports, surveys, or studies, called a conference for December 2, 1963, at Hartford, Conn. The conference resulted in the following recommendations for remedial action:

(*a*) Municipal waste treatment facilities to provide chlorination during the recreational season, May 1 to September 15. Municipal pollution abatement programs to be completed in Massachusetts in 1966, and in Connecticut in 1967.

(*b*) Industrial and institutional sources to be incorporated with municipal facilities or separate facilities installed in accordance with municipal time schedules.

(*c*) Yearly progress reports to be prepared by the conferees, the first one due January 1, 1965.

1. Cost of investigation—preenforcement	$10,143
2. Number of personnel involved in investigation	12
3. Length of survey (weeks)	2
4. Estimated conference cost	$2,983
5. Number of employees involved in conference	16

Monongahela River, W. Va.-Md.-Pa.

On August 7, 1963, the Secretary on the basis of reports, surveys, or studies, called a conference for December 17–18, 1963, at Pittsburgh, Pa. The conferees unanimously agreed to the following conclusions and recommendations:

(*a*) Cognizance is taken of Pennsylvania's program to abate pollution from such sources by the end of 1966. Commensurate programs have been developed by West Virginia and Maryland. It is recognized that court action may necessarily modify this program and that economically depressed communities in the basin may have to depend on outside financial assistance.

(*b*) The establishment of a technical committee consisting of representatives of West Virginia, Pennsylvania, Maryland, the Ohio River Valley Water Sanitation Commission, and the Federal Government to explore the means of abating pollution caused by coal mine drainage is recommended. This committee will be charged with determining the amount of pollution from such mines. The committee also will be charged with developing a remedial program, including a cost estimate.

1. Cost of investigation—preenforcement	$11, 118
2. Number of personnel involved in investigation	19
3. Length of survey (weeks)	3
4. Estimated conference cost	$5, 328
5. Number of employees involved in conference	22

Snake River, Lewiston-Clarkston area (Idaho-Washington)

The Secretary, on August 7, 1963, issued notices for a conference to be held January 15, 1964, at Lewiston, Idaho. The conference, called on the basis of reports, surveys, or studies, resulted in the establishment of a time schedule for remedial action.

1. Cost of investigation—preenforcement	None
2. Number of personnel involved in investigation	None
3. Length of survey (weeks)	None
4. Estimated conference cost	$2, 799
5. Number of employees involved in conference	5

Misssisippi River (Minn.-Wis.)

In accordance with the requests of the Governor of Minnesota on September 9, 1963, and of the Governor of Wisconsin on September 17, 1963, for a conference on the interstate and intrastate waters, as well as on the basis of reports, surveys, or studies, the Secretary on September 23, 1963, called a conference. The conference held February 7–8, 1964, in St. Paul, Minn., resulted in the establishment of an onsite study project.

1. Cost of investigation—preenforcement	None
2. Number of personnel involved in investigation	None
3. Length of survey (weeks)	None
4. Estimated conference cost	$7, 336
5. Number of employees involved in conference	13

Merrimack-Nashua River (Mass.-N.H.)

On February 12, 1963, the Governor of Massachusetts requested the Secretary take action under section 8 on the interstate and intrastate (within Massachusetts) waters. In accordance with that request, and on the basis of reports, surveys, or studies, the Secretary on September 23, 1963, called a conference. The conference held in Boston, Mass., on February 11, 1964, did not reach agreement on a time schedule for remedial measures. The Secretary's recommendations have not yet been made.

1. Cost of investigation—preenforcement	None
2. Number of personnel involved in investigation	None
3. Length of survey (weeks)	None
4. Estimated conference cost	$2, 268
5. Number of employees involved in conference	15

NOTE.—Conference estimates do not include salary costs of personnel involved.

Enforcement projects for 2 of the 9 actions just described

1. Upper Mississippi:	
(*a*) Peak number of personnel required	35
(*b*) Estimated cost through fiscal year 1965	$575, 000
2. South Platte:	
(a) Peak number of personnel required	23
(*b*) Estimated cost through fiscal year 1965	$491, 000

COLORADO RIVER PROJECT

Mr. Fogarty. Now, I notice you have 57 of your positions assigned to just one project, the Colorado River. Tell us what these 57 people do and why so many are necessary.

Mr. McCallum. Well, this is an extensive project. It involves some several thousand miles of streams and——

Mr. Fogarty. How did it originate?

Mr. McCallum. It originated at the request of six of the seven States in the basin and they did request enforcement action. It has been necessary to gather information throughout the entire system on sources of pollution and water usage and hold a series of conferences. There have been quite a number of conferences in which the States and representatives of the Department have gotten together to evaluate data developed on the sources of pollution where water use is interfered with, and the project is still active. This project is unique. We have not had an enforcement case like this.

In all our other actions there has been a specific reach of a stream involved, rather than an entire drainage basin.

Mr. Fogarty. Well, will you keep a continuing cost figure on this?

Mr. McCallum. Yes, sir.

Mr. Fogarty. How much will it cost the Federal Government to handle this case and what are the anticipated results when you conclude?

Mr. McCallum. $4.5 million at the end of 1967.

Mr. Fogarty. How long do you think this will go on?

Mr. McCallum. Well, we intend to have the project phase out at the end of 1967.

Mr. Fogarty. You would not know until 1967 what the results will be, what the recommendations will be?

Mr. McCallum. We have made recommendations as we have gone along.

At the outset of the project, one of the problems was radioactive waste from the uranium mills. That has been corrected; I believe that source of pollution has been eliminated. And several municipal and industrial problems have been corrected. We have not gotten all of the entire basin yet.

These 57 people are spread quite thin.

GRANTS TO STATE AND INTERSTATE AGENCIES

Mr. Fogarty. You have budgeted $4,700,000 for State water pollution control agencies and $300,000 for interstate agencies· Would you place in the record a table showing how this is allocated and how much in other funds is put up for the same purpose.

Mr. McCallum. Yes, sir.

(The statistics requested follow:)

Expenditures of State and interstate water pollution control agencies,[1] *fiscal years 1962 and 1963,*[2] *and budgets for fiscal year 1964,*[2] *by source of funds*

States	1962			1963			1964		
	Total	Federal WPC grant	All other	Total	Federal WPC grant	All other	Total	Federal WPC grant	All other
Total	$12, 424, 821	$4, 261, 867	$8, 162, 954	$13, 747, 952	$4, 470, 817	$9, 277, 135	$15, 331, 199	$4, 493, 363	$10, 837, 836
Alabama	152, 527	96, 864	55, 663	135, 467	90, 311	45, 156	93, 453	64, 293	29, 160
Alaska	34, 742	14, 100	20, 642	26, 723	10, 205	16, 518	41, 600	15, 000	26, 600
Arizona	67, 136	35, 872	31, 264	86, 411	39, 170	47, 241	83, 089	47, 623	35, 466
Arkansas	143, 829	63, 267	80, 562	166, 546	64, 901	101, 645	167, 955	61, 100	106, 855
California	1, 130, 479	267, 746	862, 733	1, 157, 638	288, 045	869, 593	1, 252, 520	280, 600	971, 920
Colorado	323, 132	44, 245	278, 887	386, 913	45, 525	341, 388	400, 569	44, 800	355, 769
Connecticut	150, 647	50, 678	99, 969	161, 296	54, 260	107, 036	178, 215	46, 209	132, 006
Delaware	153, 550	47, 863	105, 687	156, 061	47, 191	108, 870	167, 110	45, 000	122, 110
District of Columbia	107, 835	26, 957	80, 878	51, 147	20, 470	30, 677	123, 945	25, 666	98, 279
Florida	624, 000	107, 200	516, 800	633, 901	117, 527	516, 374	762, 200	122, 300	639, 900
Georgia	235, 501	108, 856	126, 645	223, 038	113, 759	109, 279	259, 087	109, 800	149, 287
Hawaii	97, 919	35, 665	62, 254	115, 350	39, 274	76, 076	112, 905	38, 500	74, 405
Idaho	82, 224	26, 258	55, 966	68, 459	27, 398	41, 061	74, 417	26, 300	48, 117
Illinois	370, 788	144, 039	226, 749	417, 750	137, 401	280, 349	524, 193	147, 760	376, 433
Indiana	241, 887	111, 544	130, 343	251, 951	119, 906	132, 045	271, 600	113, 700	157, 900
Iowa	115, 035	57, 260	57, 775	134, 320	61, 276	73, 044	143, 595	71, 205	72, 390
Kansas	184, 618	54, 480	130, 138	204, 746	56, 761	147, 985	147, 201	54, 500	92, 701
Kentucky	164, 727	87, 870	76, 857	189, 497	93, 341	96, 156	210, 510	88, 500	122, 010
Louisiana	170, 833	89, 318	81, 515	163, 772	95, 529	68, 243	175, 955	91, 900	84, 055
Maine	134, 677	36, 699	97, 978	153, 031	38, 337	114, 694	373, 729	37, 100	336, 629
Maryland	249, 513	89, 111	160, 402	278, 520	91, 258	187, 262	267, 467	86, 500	180, 967
Massachusetts	318, 225	135, 217	183, 008	334, 237	139, 595	194, 642	321, 483	131, 700	189, 783
Michigan	397, 024	171, 192	225, 832	414, 000	184, 390	229, 610	428, 400	177, 500	250, 900
Minnesota	159, 323	82, 081	77, 242	172, 541	86, 465	86, 076	208, 469	81, 800	126, 669
Mississippi	159, 761	80, 849	78, 912	261, 048	84, 069	176, 979	153, 613	81, 445	72, 168

Missouri	84, 100	43, 295	40, 805	170, 450	61, 995	108, 455	207, 014	90, 416	116, 598
Montana	58, 167	24, 190	33, 977	54, 468	24, 400	30, 068	62, 950	25, 000	37, 950
Nebraska	45, 633	26, 578	19, 055	47, 702	24, 969	22, 733	57, 830	30, 430	27, 400
Nevada	40, 811	10, 350	30, 461	54, 349	12, 776	41, 573	46, 500	16, 400	30, 100
New Hampshire	106, 932	33, 287	73, 645	134, 607	36, 045	98, 562	135, 132	34, 600	100, 532
New Jersey	396, 998	145, 141	251, 857	419, 159	151, 992	267, 167	498, 146	144, 700	353, 446
New Mexico	87, 109	30, 186	56, 923	180, 332	32, 190	148, 142	166, 028	31, 600	134, 428
New York	1, 269, 162	306, 925	962, 237	1, 560, 421	321, 028	1, 239, 393	1, 731, 447	321, 028	1, 410, 419
North Carolina	313, 271	132, 529	180, 742	291, 298	137, 095	154, 203	307, 969	131, 400	176, 569
North Dakota	44, 604	26, 361	18, 243	69, 270	26, 877	42, 393	83, 735	26, 300	57, 435
Ohio	827, 256	207, 787	619, 469	804, 155	200, 239	603, 916	895, 614	213, 500	682, 114
Oklahoma	86, 354	51, 026	35, 328	101, 414	59, 529	41, 885	109, 908	63, 700	46, 208
Oregon	168, 413	46, 106	122, 307	198, 133	47, 712	150, 421	141, 487	46, 400	95, 087
Pennsylvania	925, 837	239, 835	686, 002	1, 034, 741	251, 375	783, 366	1, 595, 447	239, 300	1, 356, 147
Rhode Island	106, 013	51, 002	55, 011	116, 873	55, 523	61, 350	148, 868	58, 000	90, 868
South Carolina	160, 051	81, 771	78, 280	145, 266	86, 049	59, 217	142, 818	82, 000	60, 818
South Dakota	44, 573	27, 291	17, 282	42, 257	26, 405	15, 852	47, 026	27, 100	19, 926
Tennessee	188, 128	103, 377	84, 751	202, 971	109, 697	93, 274	211, 649	113, 300	98, 349
Texas	437, 339	192, 206	245, 133	545, 047	204, 857	340, 190	495, 836	199, 800	296, 036
Utah	72, 617	20, 153	52, 464	57, 901	32, 294	25, 607	74, 660	31, 400	43, 260
Vermont	86, 035	25, 948	60, 087	99, 735	27, 398	72, 337	112, 400	26, 000	86, 400
Virginia	238, 387	97, 898	140, 489	238, 942	106, 050	132, 892	230, 420	102, 500	127, 920
Washington	233, 575	63, 784	169, 791	273, 348	68, 026	205, 322	254, 088	66, 065	188, 023
West Virginia	119, 296	58, 822	60, 474	195, 524	62, 609	132, 915	202, 401	60, 100	142, 301
Wisconsin	203, 951	97, 400	106, 551	252, 014	106, 884	145, 130	217, 134	102, 900	114, 234
Wyoming	55, 975	17, 988	37, 987	51, 649	18, 439	33, 210	52, 703	18, 100	34, 603
Guam	9, 600	6, 400	3, 200						
Puerto Rico	44, 702	29, 000	15, 702	49, 842	26, 000	23, 842	113, 659	73, 856	39, 803
Virgin Islands	(3)	(3)	(3)	11, 721	6, 000	5, 721	45, 050	26, 667	18, 383
INTERSTATE AGENCIES									
Total	586, 862	251, 013	335, 849	568, 423	232, 402	336, 021	601, 864	240, 244	361, 620
Interstate Commission on Potomac River Basin	53, 886	27, 065	26, 821	53, 772	27, 311	26, 461	75, 700	22, 300	53, 400
New England Interstate Water Pollution Control Commission	32, 530	12, 950	19, 580	34, 351	13, 676	20, 675	35, 097	21, 125	13, 972
Interstate Sanitation Commission	161, 694	60, 277	101, 417	166, 769	62, 839	103, 930	173, 000	64, 719	108, 281
Ohio River Valley Sanitation Commission	234, 790	107, 816	126, 974	254, 183	105, 321	148, 862	222, 200	92, 200	130, 000
Interstate Commission on Delaware River Basin	103, 962	42, 905	61, 057	59, 348	23, 255	36, 093	95, 867	39, 900	55, 967

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[1] Exclusive of State grants to municipalities for waste-treatment works construction.

[2] 1963 and 1964 data provisional.

[3] Not available.

FIELD LABORATORIES

Mr. **Fogarty.** You are asking for $395,000 to finance 93 additional positions for the field laboratories. Will you place in the record which laboratories and how many for each?

Mr. **McCallum.** Yes, sir.

(The information requested follows:)

Distribution of proposed staff increase for 1965, by laboratory

Ada, Okla	27
Athens, Ga	13
Corvallis, Oreg	24
College, Alaska	9
Kingston, R.I	10
Duluth, Minn	4
Boston, Mass	4
Ann Arbor, Mich	2
Total	93

MATCHING DEMONSTRATION GRANT FUNDS

Mr. **Fogarty.** At page 119, you say the grantees under the demonstration grant program "normally" provide matching funds. Why should they not always?

Mr. **McCallum.** In our demonstration grants, they have in all cases supported part of the project. That has varied from 25 or 30 percent to more than 50 percent in some cases.

WASTE TREATMENT PRACTICES OF FEDERAL INSTALLATIONS

Mr. **Fogarty.** In 1963, you started a program to correct deficiencies in waste treatment practices of Federal installations. Have you found any bad situations? And, if so, what is being done about them?

Mr. **McCallum.** We found situations that needed attention, and are working with the other Federal agencies concerned to bring about remedial measures.

Mr. **Fogarty.** Provide for the record a couple of examples of the worst ones and what you did about them.

Mr. **McCallum.** Yes, sir.

(The requested information follows:)

Examples of Bad Waste Treatment Practices at Federal Installations and Remedial Action Taken

The degree of pollution is generally dependent on a number of factors—the nature, kind, and amounts of pollutants; place of discharge; size of receiving stream; etc.

The following are three examples of Federal installations where pollution problems exist as a result of current waste disposal practices, and where remedial measures are underway. These are illustrative of several types of deficiencies in waste treatment practices being encountered, and of the corrective measures being taken by the agencies concerned.

National Zoological Park, Washington, D.C.—Smithsonian Institution

In coordination with officials of the National Zoological Park, the District of Columbia Department of Sanitary Engineering, and officials of the Department of Health, Education, and Welfare, Public Health Service, a report was prepared by the Public Health Service in January 1963 evaluating the pollution situation and recommending remedial action. Rock Creek is being polluted by sanitary sewage and manure pile drainage.

An engineering study was authorized for the sewer system with the zoo beginning with fiscal year 1964. Depending upon the engineering study and upon financing, the National Zoological Park has planned to eliminate its pollution at Rock Creek by 1965. The U.S. Public Health Service on July 16, 1963, recommended to the Jones committee that definite and immediate corrective measures should be taken regarding the manure pile problem at the zoo. Recent information indicates that bids for corrective measures will be advertised during the month of March 1964, with completion dates established about July 1, 1964.

Fort Knox, Ky.—Department of the Army

Approximately 190,000 gallons per day of laundry waste are discharged to an underground limestone cavern. This constitutes a definite hazard to ground waters in the area. The Kentucky Water Pollution Control Commission has in force a policy that specifically prohibits any new discharges to sinkholes and is rapidly requiring elimination of discharges of this type. The U.S. Public Health Service investigated this pollution problem and recommended remedial action. By letter dated October 2, 1963, to Chairman Jones of the Natural Resources and Power Subcommittee, Deputy Assistant Secretary of the Army Eugene Merrill, informed that, in compliance with recommendations of the U.S. Public Health Service, the commander, Headquarters, 2d U.S. Army plans to submit for the fiscal year 1966 program a project to install a sewerline to discharge the laundry waste into the post sanitary sewerage system.

McNeil Island Prison, Wash.—Department of Justice

In performance of its function to coordinate sewerage abatement among Federal agencies, the U.S. Public Health Service in 1962 conducted an investigation of pollution resulting from sewage disposal at the U.S. Penitentiary located on McNeil Island. This inspection and evaluation was conducted by personnel of the Department in cooperation with the Bureau of Prisons and the Washington State Pollution Control Commission.

The U.S. Public Health Service in its report found that wastes are discharged at mean low water level to the sound through four separate outfall lines. Two of these discharge untreated wastes in the vicinity of the main institution docks; floating material has been noted in the vicinity of each outfall. The farm area outfall presents the worst condition, where sludge banks and odors were observed in the tidal flats. The largest volume of sewage is found at the main institution and includes wastes from a cannery, the main laundry, and a furniture refinishing plant. The farm area outfall collects wastes from a dormitory, shop, piggery, slaughterhouse, and milk processing plant. Recommendations as to the most economical, feasible, and practical system of sanitary sewage disposal for McNeil Island as well as a proposed timetable to accomplish the work were proposed.

By letter dated June 21, 1963, from James V. Bennett, Director, Bureau of Prisons, U.S. Department of Justice, to Chairman Jones of the Natural Resources and Power Subcommittee, Mr. Bennett stated that the cost of a sewerage disposal system for McNeil Island is approximately $300,000, for which funds will have to be appropriated by the Congress.

JUSTIFICATION MATERIAL

(Following is the justification material submitted to the committee:)

Water Supply and Water Pollution Control

Amounts available for obligation

	1964	1965
Appropriation	$28,980,000	$34,420,000
Transfer to "Operating expenses, Public Buildings Service," General Services Administration	−50,000	
Proposed transfer from "National Heart Institute" due to Uniformed Services Pay Act of 1963	+130,000	
Comparative transfer from "Salaries and expenses, Office of the Surgeon General"	+23,000	
Comparative transfer to "Environmental health sciences"	−46,000	
Total	29,037,000	34,420,000

Obligations by activity

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Grants	--------	$12,328,000	--------	$13,452,000	--------	+$1,124,000
Research	--------	4,229,000	--------	5,210,000	--------	+981,000
Fellowship	--------	474,000	--------	617,000	--------	+143,000
Training	--------	2,000,000	--------	2,000,000	--------	--------
Control programs	--------	5,000,000	--------	5,000,000	--------	--------
Demonstration	--------	625,000	--------	625,000	--------	--------
Direct operations	1,338	16,709,000	1,561	20,968,000	+223	+4,259,000
Comprehensive planning	403	5,157,000	479	7,018,000	+76	+1,861,000
Enforcement	302	3,603,000	329	3,826,000	+27	+223,000
Research, training, and technical services	633	7,949,000	753	10,124,000	+120	+2,175,000
Total obligations	1,338	29,037,000	1,561	34,420,000	+223	+5,383,000

Obligations by object

	1964 estimate	1965 estimate	Increase or decrease
Total number of permanent positions	1,338	1,561	+223
Full-time equivalent of other positions	45	52	+7
Average number of all employees	1,232	1,365	+133
Number of employees at end of year:			
Permanent positions	1,338	1,559	+221
Other	49	51	2
11 Personnel compensation:			
Permanent positions	$8,149,800	$9,459,900	+$1,310,100
Positions other than permanent	308,000	343,000	+35,000
Other personnel compensation	76,000	54,600	−21,400
Total, personnel compensation	8,533,800	9,857,500	+1,323,700
12 Personnel benefits	1,180,000	1,343,500	+163,500
21 Travel and transportation of persons	1,077,000	1,185,000	+108,000
22 Transportation of things	172,000	266,000	+94,000
23 Rent, communications, and utilities	429,000	546,000	+117,000
24 Printing and reproduction	196,000	209,000	+13,000
25 Other services	800,000	1,217,000	+417,000
Research contracts	600,000	600,000	--------
Services of other agencies	640,000	1,146,000	+506,000
Contracts for construction	--------	1,100,000	+1,100,000
Payment to—			
Bureau of State Services management fund	1,364,900	1,372,000	+7,100
National Institutes of Health management fund	56,000	68,000	+12,000
26 Supplies and materials	776,000	865,000	+89,000
31 Equipment	884,300	1,193,000	+308,700
41 Grants, subsidies, and contributions	12,328,000	13,452,000	+1,124,000
Total, obligations by object	29,037,000	34,420,000	+5,383,000

Summary of changes

1964 enacted appropriation	$28,980,000
Transfer to "Operating expenses, Public Buildings Service," General Services Administration (rent)	−50,000
Proposed transfer from "National Heart Institute" due to Uniformed Services Pay Act of 1963	130,000
Comparative transfer from "Salaries and expenses, Office of the Surgeon General"	23,000
Comparative transfer to "Environmental health sciences"	−46,000
Total estimated obligations, 1964	29,037,000
1965 estimated obligations	34,420,000
Total change	+5,383,000

INCREASES

Built-in:		
1. Annualization of step 2 of the civil service pay increase:		
Comprehensive planning	$45,000	
Enforcement activities	38,000	
Research, training, and technical services	91,000	
		174,000
2. Annualization of increased cost of Uniformed Services Pay Act of 1963:		
Comprehensive planning	21,000	
Enforcement activities	10,000	
Research, training, and technical services	24,000	
		55,000
3. Annualization of 200 new positions authorized in 1964 for 60 percent of year:		
Comprehensive planning (81 positions)	123,000	
Enforcement activities (60 positions)	113,000	
Research, training, and technical services (59 positions)	150,000	
		386,000
Subtotal, built-in increases		615,000

PROGRAM INCREASES

Increase in research grants	981,000
Increase in fellowships	143,000
Expansion of 4 existing comprehensive projects and 1 new start for water pollution control	1,838,000
Additional requirements for enforcement of water pollution control	434,000
Establishment of activities for the field and national water quality standards laboratories	395,000
Expansion of the demonstration of acid mine drainage control and abatement project	1,321,000
Expansion of special technical assistance projects and increased NIH service costs related to the additional research grant awards	315,000
Subtotal, program increases	5,427,000

DECREASES

1. Nonrecurring program (phasing out of Detroit River project): Enforcement activities		−115,000
2. Nonrecurring equipment requirements:		
Comprehensive planning	−$156,000	
Enforcement activities	−251,000	
Research, training, and technical services	−109,000	
		−516,000
3. 1 less day of pay in 1965:		
Comprehensive planning	−10,000	
Enforcement activities	−6,000	
Research, training, and technical services	−12,000	
		−28,000
Subtotal, decreases		−659,000
Total net change requested		+5,383,000

EXPLANATION OF CHANGES

Research grants

An increase of $981,000 is requested to support continuation and supplemental grants, to award 76 new grants to institutions and individuals, and to increase the allowance for indirect costs by $71,000. The total budget of $5,210,000 will support 264 projects.

Fellowships

An increase of $143,000 is requested to support previously approved fellowships and to award approximately 36 new research fellowships in the field of water pollution control. The total budget of $617,000 will support approximately 87 fellowships.

Expansion of four existing comprehensive projects and one new start for water pollution control

An additional 38 positions and $434,000 are needed to expand 2 new major river basin projects started prior to 1964—Chesapeake Bay-Susquehanna, Columbia, and the Ohio, plus accelerate the Southeastern River Basin study initiated in 1964. This request also includes funds to start the tristate metropolitan project in 1965.

Additional requirements for enforcement of water pollution control

An additional 38 positions and $434,000 are needed to expand 2 new major onsite projects initiated in 1964—South Platte (Colorado) and the Twin Cities-Upper Mississippi projects and to activate an estimated 1 to 3 new projects that will result from the actions to be instituted in 1965.

Establishment of activities for the field and national water quality standards laboratories

The $395,000 is to finance 93 positions to initiate and/or establish a nucleus staff for research, technical assistance, and basic data activities to be located in the Water Pollution Control Field Laboratories and the National Water Quality Standards Laboratories which are scheduled to be operational in fiscal year 1966.

Expansion of the demonstration of acid mine drainage control and abatement project

A total of $1,321,000 and five positions is requested to meet the expansion needs of this project which started in 1964. Included in this increase is $1,100,000 for contract construction of structures to demonstrate control measures for acid mine drainage.

Expansion of the demonstration of acid mine drainage control and abatement costs related to the additional research grants awards

Included in this requirement are 22 positions and $303,000 to meet expanded requirements for special technical assistance studies which include Klamath River Basin study, pesticides as pollutants project and for a study of the Charleston Harbor-Cooper River. Also included is $12,000 to finance the NIH service cost related to the additional research grant award funds requested for 1965.

Explanation of transfers

	1964 estimate	1965 estimate	Purpose
Comparative transfer to "Environmental health sciences."	$46,000	----------	To exclude from this appropriation funds for the grant review and approval activity in the Office of Resources Development, Environmental Health, previously budgeted in the Bureau of State Services management fund.
Comparative transfer from "Salaries and expenses, Office of the Surgeon General."	23,000	----------	For decentralization of costs for accounting services provided in the Washington area.
Transfer to "Operating expenses, Public Buildings Service," General Services Administration.	50,000	----------	To transfer to General Services Administration funds for leased space.
Transfer from "National Heart Institute."	130,000	----------	To transfer funds to cover increased pay costs due to Public Law 88-132.

Water supply and water pollution control

	Budget estimate to Congress	House allowance	Senate allowance	Appropriation
1962	$20,628,000	$20,028,000	$20,628,000	$20,328,000
1963	23,607,000	24,607,000	25,407,000	24,707,000
1964	29,980,000	27,921,000	29,980,000	28,980,000
1965	34,420,000			

Significant item in Senate Appropriation Committee Report

Item: 1964 Senate Report:	Action Taken or to be Taken:
The committee recommended the full budget estimate of $29,980,000. They also expected the Service to utilize funds available to augment the recruitment and training of key professional staff to man the Southeast Water Pollution Control Laboratory at Athens, Ga., and the Southwest Water Pollution Control Laboratory at Ada, Okla., in order that the laboratories, when completed, will be immediately available for the important work of providing laboratory support and manpower for the extensive field programs required by the Federal Water Pollution Control Act.	Final congressional action resulted in an appropriation of $28,980,000. The Service has taken action to authorize a nucleus staff of seven people for the Southwest and the Southeast Water Pollution Control Laboratories.

GRANTS

Research grants

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Number	Amount	Number	Amount	Number	Amount
Continuations:						
Noncompeting	131	$2,159,000	154	$2,798,000	+23	639,000
Competing	34	571,000	34	571,000		
Supplementals	(16)	120,000	(19)	149,000	(+3)	+29,000
New grants	50	1,204,000	76	1,407,000	+26	+203,000
Additional indirect costs to:						
(*a*) 20 percent [1]		175,000		214,000		+39,000
(*b*) 25 percent [2]				71,000		+71,000
Total, research grants	215	4,229,000	264	5,210,000	+49	+981,000

[1] Relates to all grants approved for support in these years.

[2] Relates to proposed increase in indirect cost rate to 25 percent for grants awarded on or after Jan. 1, 1965.

Research grants are awarded to investigtors in institutions and agencies to support independent research on scientific and engineering problems of water supply and pollution control. Examples of investigations include: the significance of nematode worms in water sewage treatment; methods of sewage reclamation by underground recharge; analysis of pesticides and herbicides in water; applications of foam fractionation to improved treatment of sewage and industrial wastes; and the development of a portable multiparameter water quality monitor.

In 1963 national publicity was given to the development by a California Institute of Technology engineer of a new technique for removal of detergents from sewage. The method was developed under a research grant supported by this program, and is now being field tested. In addition to removing foam from sewage effluents, this treatment would prevent ground water contamination, and also remove other chemicals to make the water easier to purify for reuse.

Fellowships

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Number	Amount	Number	Amount	Number	Amount
Continuations	21	$139,000	51	$336,000	+30	+$197,000
New awards	47	335,000	36	281,000	−11	−54,000
Total, research fellowships	68	474,000	87	617,000	+19	+143,000

Research fellowships are awarded to individual scientists and engineers to support research training at graduate and postgraduate levels. The purpose of these fellowships is to increase the number of investigators qualified to conduct independent research in a wide variety of water supply and pollution control problems. There is a growing demand for individuals having such specialized training to continue a research career in university, industry, State, and Federal service.

Examples of the types of advanced study and research carried out under this program are the degradation of pesticide pollutants in water, effects of insecticides on fish, radioactivity research in water pollution, application of computers to engineering design of water filtration plants, and the decomposition of detergents in sewage by bacteria.

Due to a change in policy authorizing an increase of $600 in 1965 for stipends for predoctoral awards, the 1964 estimate includes $24,000 for awards to be activated in 1965 and $45,000 for all awards estimated for 1965.

Training grants

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Number	Amount	Number	Amount	Number	Amount
Continuations	39	$1,392,000	57	$2,000,000	+18	+$608,000
New grants	18	608,000	0	------------	−18	−608,000
Total, training grants	57	2,000,000	57	2,000,000	--------	------------

Training grants are awarded to colleges and universities to establish or expand graduate level training programs for critically needed scientific and engineering manpower in research, teaching, and administrative operations in water supply and pollution control. The purpose of these grants is to support improved curriculums, expanded faculties, and stipends for qualified graduate students. Training grants normally provide for support of a 5-year program development.

Examples of the types of graduate training program supported by this activity are multidisciplinary training of specialists in sanitary engineering, systems analysis, and economic aspects of water pollution control; training courses for aquatic scientists and water pollution chemistry specialists; and in process engineering of waste water treatment.

Grants for State and interstate water pollution control programs

	1964 estimate	1965 estimate	Increase (+) or decrease (−)
State	$4,700,000	$4,700,000	-------------
Interstate agencies	300,000	300,000	-------------
Total	5,000,000	5,000,000	-------------

The Federal Water Pollution Control Act provides for active participation by State and interstate agencies in water pollution control programs. These grants to State and interstate agencies enable them to initiate or expand their activities in conducting field studies of actual and potential water pollution problems; establish monitoring systems to provide current information on the quality of existing waters; training technicians and administrators as specialists in water resources planning and water pollution control; consulting with communities and industries to effect voluntary abatement of pollution and assisting municipalities in developing plans for the installation of waste treatment facilities.

Continued financial assistance is important to States and interstate agencies in maintaining and improving their expanded programs. As additional comprehensive water pollution control programs are developed, the primary responsibility of State and interstate agencies to implement these comprehensive programs will require expanded staffs and intensified participation.

This request is for the $5 million authorized by the Federal Water Pollution Control Act, as amended in 1961. The tables showing allocations by States and interstate agencies follow:

Allocations of grant-in-aid funds for water pollution control

State or territory	1963 allocations	Estimated 1964 allocations	Estimated 1965 allocations
Alabama	$97,300	$97,500	$96,200
Alaska	15,300	15,400	15,400
Arizona	37,600	38,900	39,700
Arkansas	62,300	61,100	60,900
California	276,500	280,600	285,600
Colorado	43,700	44,800	45,700
Connecticut	82,100	81,600	81,400
Delaware	45,300	45,000	45,000
District of Columbia	47,500	47,200	47.200
Florida	118,000	122,300	125,900
Georgia	109,200	109,800	108,900
Hawaii	37,700	38,500	38,300
Idaho	26,300	26,700	26,800
Illinois	205,900	202,400	200,000
Indiana	115,100	113,700	111.700
Iowa	70,800	69,900	69,300
Kansas	54,400	54,500	54,200
Kentucky	89,600	88,500	87,100
Louisiana	91,700	91,900	93,300
Maine	36,800	37,100	36,500
Maryland	87,600	86,500	86,100
Massachusetts	134,000	131,700	130,300
Michigan	177,000	177,500	178,400
Minnesota	83,000	81,800	81,000
Mississippi	80,700	80,000	79,900
Missouri	97,200	95,600	94,200
Montana	24.400	25,000	24,900
Nebraska	39,900	40,300	39,600
Nevada	16,100	16,400	16,700
New Hampshire	34,600	34,600	34,300
New Jersey	145,900	144,700	145,300
New Mexico	30,900	31,600	31,900
New York	307,900	307,700	310,100
North Carolina	131,600	131,400	129,200
North Dakota	25,800	26,300	24,800
Ohio	212,300	213,500	214,900
Oklahoma	62,400	63,700	64.300
Oregon	45,800	46,400	45,900
Pennsylvania	241,300	239,300	238,300
Rhode Island	58,500	58,000	58,000
South Carolina	82,600	82,000	81,300
South Dakota	26,900	27,100	26,500
Tennessee	105,300	104,300	103,600
Texas	196,500	199,800	204.200
Utah	31,000	31,400	31.500
Vermont	26,300	26,000	25.800
Virginia	101,800	102,500	104,100
Washington	65,300	66,100	66,300
West Virginia	60,100	58,000	57,200
Wisconsin	102,600	102.900	101.900
Wyoming	17,700	18,100	17,900
Guam	41,200	40,800	40,700
Puerto Rico	102,400	101,600	101,900
Virgin Islands	40.300	40,000	39,900
Total	4,700,000	4,700,000	4,700,000

Estimated allocations to interstate agencies

Interstate agency	1963 allocations	Estimated 1964 allocations	Estimated 1965 allocations
New England Interstate Water Pollution Control Commission	$42,800	$40,600	$40,500
Ohio River Valley Water Sanitation Commission	97,100	92,200	92,100
Interstate Commission on the Delaware River Basin	42,100	39,900	40,000
Interstate Sanitation Commission	68,600	64,900	65,100
Klamath River Compact Commission	7,600	7,400	7,500
Interstate Commission on the Potomac River Basin	23,700	22,300	22,300
Bistate Development Agency	18,100	17,000	16,900
Tennessee River Basin Water Pollution Control	----------	15,700	15,600
Total	300,000	300,000	300,000

Demonstration grants

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Number	Amount	Number	Amount	Number	Amount
Continuations	14	$513,000	14	$392,000	--------	−$121,000
New grants	4	112,000	6	233,000	+2	+121,000
Total demonstration grants	18	625,000	20	625,000	+2	----------

Demonstration grants are awarded to public and private institutions and agencies to support field investigations and studies of an applied nature which will test and illustrate the applicability of research findings and newly developed techniques to problems of water supply and pollution control. Grantees under this program normally provide matching funds.

No projects are as yet completed, but several already have demonstrated accomplishments. For example, a technical school in Missouri has shown the feasibility of developing a regional facility for the intensive training of water and sewage plant operating personnel. The Massachusetts fisheries and game division has made a survey of streams contaminated by pesticide sprays, and is conducting studies to determine the feasibility of establishing safe spraying intervals to control accumulation of DDT in fish.

Examples of demonstration grant projects supported in 1963 are development of an improved design for subsurface ocean disposal of wastes, reclamation of reusable water from sewage, aerial reconnaissance for identification of pollution sources, and training of fish and game unit teams for evaluation of pollution.

Comprehensive planning

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	403	$2,818,292	479	$3,386,892	+76	+$568,600
Other expenses	--------	2,338,708	--------	3,631,108	--------	+1,292,400
Total	403	5,157,000	479	7,018,000	+76	+1,861,000

SUMMARY OF PROGRAMS

1. Development phase:						
Basic program	66	689,000	66	713,000		+24,000
Chesapeake Bay-Susquehanna	36	405,000	47	950,000	+11	+545,000
Columbia	35	375,000	40	500,000	+5	+125,000
Great Lakes-Illinois	198	2,596,000	198	2,650,000		+54,000
Delaware estuary	18	286,000	18	285,000		−1,000
Ohio	32	[1] 495,000	50	800,000	+18	+305,000
Southeastern	11	195,000	28	600,000	+17	+405,000
Tri-State metropolitan			25	400,000	+25	+400,000
Total development phase	396	5,041,000	472	6,898,000	+76	+1,857,000
2. Management phase: Arkansas-Red	7	116,000	7	120,000		+4,000
Total	403	5,157,000	479	7,018,000	+76	+1,861,000

[1] An additional $5,000 is included in the funds to be transferred to General Services Administration for space.

GENERAL

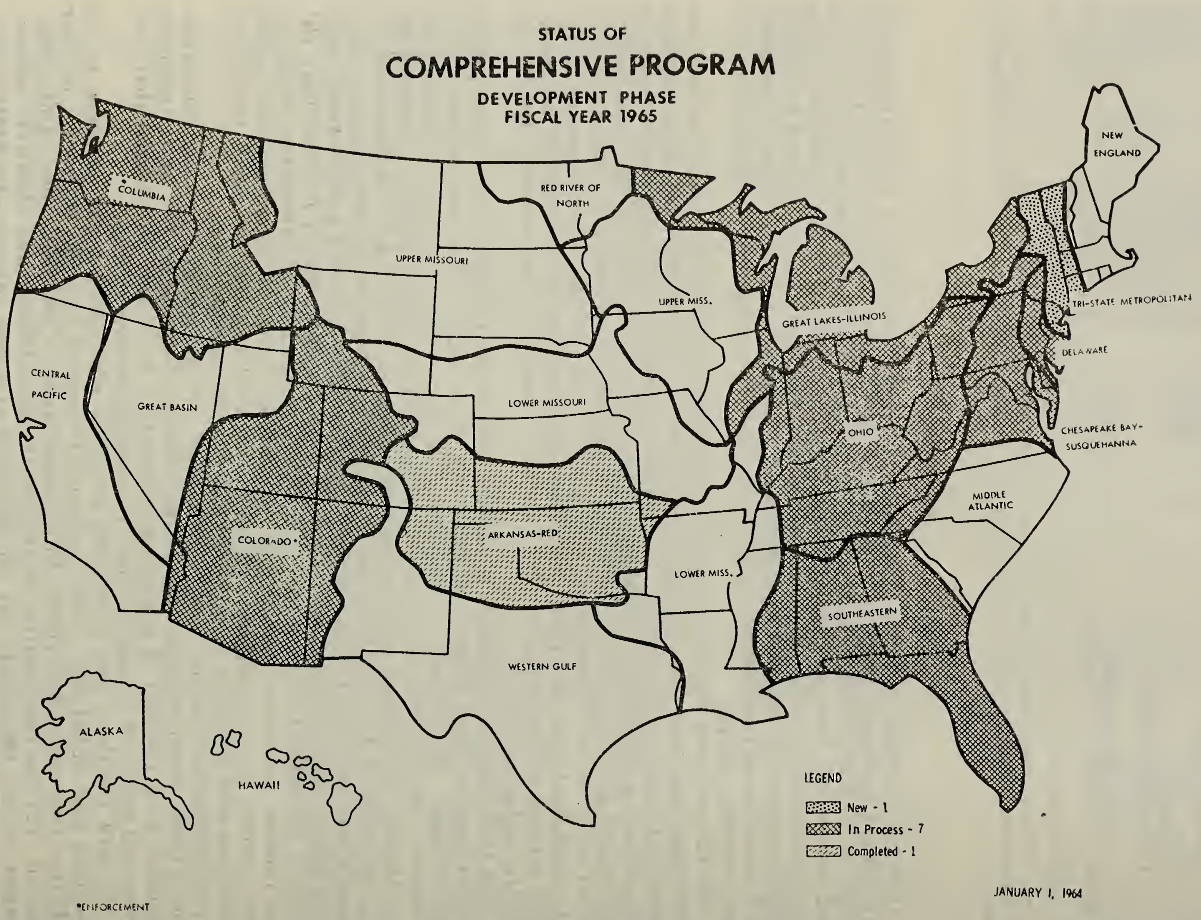
Generally, comprehensive planning involves development of long-range plans providing a regulated supply of clean water for all purposes and meeting projected needs in the basins under study. This involves such elements as economic studies and forecasting, computation of streamflow and removal requirements to reduce concentrations of pollutants, and determinations of the physical and biological characteristics of streams and lakes and means of making necessary technical and administrative divisions on operating the river system for best water quality and pollution control.

For this purpose, the Nation has been divided into 20 river basins (see map on following page) and the priority schedule for initiating studies of these basins is based on the following criteria: (1) the need to resolve critical water problems in areas where pollution has curtailed water uses; (2) the need to time comprehensive water pollution control planning with water resources planning and construction by other Federal agencies; and (3) the degree of readiness by State, interstate, and local entities to cooperate in comprehensive program development. This permits the program to carry out its responsibilities more effectively, efficiently, and economically.

The 1965 request represents a further step in the direction of coordination of comprehensive river basin studies by the four major Departments involved in these studies. In response to directives from the President and committees of the Congress, representatives of the Departments of the Army, Interior, Agriculture, and Health, Education, and Welfare have met frequently both at headquarters and in the field to coordinate their planning and program development. This process was designed to (1) identify program objectives and procedures in each river basin; (2) establish procedures for useful exchange of information; (3) identify specialized services that might be provided by the respective agencies, and produce agreement concerning amounts of funds to be transferred among the agencies for the provision of these services; and (4) set forth long-range intentions and develop a coordinated schedule of undertakings.

At the present time the four Departments are engaged in a thorough reevaluation of costs, duration, and scope of the entire national effort for water resources planning with the aim of achieving economies. It is also anticipated that this effort will result in a new schedule for comprehensive studies.

The 479 positions and $7,018,000 for 1965 represents a net increase of 76 positions and $1,861,000. This request will permit (1) the expansion of four existing projects—Chesapeake Bay-Susquehanna, Columbia, Ohio, and southeastern; (2) the continuation of the Great Lakes-Illinois and Delaware estuary projects at the 1964 level; (3) the initiation of a new project—Tri-State metropolitan; and (4) the financing of built-in costs such as the annualization of 81 new positions authorized in 1964 and increased pay costs.



STATUS OF

COMPREHENSIVE PROGRAM

DEVELOPMENT PHASE
FISCAL YEAR 1965

LEGEND
- ▩ New - 1
- ▩ In Process - 7
- ▨ Completed - 1

JANUARY 1, 1964

*ENFORCEMENT

1. Development phase

Basic program.—Basic program includes (1) general direction, technical support and guidance to comprehensive projects from the Technical Advisory and Investigations section (Sanitary Engineering Center, Cincinnati), from Washington, and from the regional offices; (2) conduct of preliminary planning in basins where comprehensive projects are not yet underway; and (3) execution of responsibilities under section 2(b) of the Federal Water Pollution Control Act in areas where comprehensive projects are not underway.

In 1964 the basic program received an increase to carry out section 2(b) work, i.e., development of recommendations on water storage requirements for purposes of streamflow regulation for quality control in reservoirs planned by other Federal agencies. In 1965 it is estimated this workload will continue at the 1964 level. The $24,000 is for mandatory costs.

Chesapeake Bay-Susquehanna River Basin.—Activities in 1964 will be concentrated in the Susquehanna River Basin, although steps are being taken to open a field station in the Baltimore-Annapolis vicinity for the Chesapeake Bay phase of the study. The increase for 1965 will permit undertaking full-scale investigations in the Chesapeake Bay area, while maintaining the 1964 level of activities in the Susquehanna portion. Oceanographic activities in Chesapeake Bay will be expanded and a detailed study of the effects of waste nutrients on the biology of Chesapeake Bay will be initiated.

Columbia River Basin.—The intensive investigations required as a basis for the program will be 35 to 40 percent complete at the end of 1964. During 1964, field studies were initiated to determine the effect of land management and irrigation practices on water quality in the Pacific Northwest.

The 1965 program increase will be used to (1) keep the water quality studies and projections in pace with water resources development programs of the Federal water construction agencies and meet Public Health Service responsibilities for providing advice on storage required for streamflow regulation for quality control in proposed Federal reservoirs; and (2) initiate studies in the upper Columbia, Puget Sound, Kootenai, Spokane, and Washington coastal basins.

Great Lakes-Illinois River Basins.—The Great Lakes-Illinois River Basin project was begun in 1961, and the intensive investigations are scheduled for completion at the end of 1967. Studies on the lakes include the establishment of complex instrument stations to measure and automatically record current temperature and other data pertaining to the movement of lake waters. Shore based activities include inventorying existing water uses and waste water discharges, and conducting economic studies for the purpose of projecting future water uses and waste discharges.

It is estimated that investigations in Lake Michigan and Lake Erie will be substantially completed by the close of 1964 and the studies in Lake Erie and the Lake Erie drainage basin will be well advanced. During 1964, a field station will be opened and studies initiated on Lake Ontario. The 1965 funds will enable the Lake Ontario field station to become fully operational and permit intensive investigations to be conducted in this area. It will also permit the opening of a field station and the start of investigations for the Lake Huron study.

Delaware estuary.—This project was begun in 1962, and the intensive investigation phase is scheduled for completion at the end of 1967. The goal of the project is to provide State and interstate agencies of the area with a set of mathematical model techniques for forecasting and managing the quality of water in the estuary and to make specific proposals to alleviate present poor quality conditions.

During 1964, the industrial waste study will be completed. Estuarine, economic, tidal current, and dye studies will continue, and storm water overflow studies will be started. The intensive phase of investigations will crest in 1965 and 1966.

Ohio River Basin.—In 1964 the project is placing primary emphasis on the upper portion of the Ohio River Basin. Field investigations and data collection have been greatly intensified with the opening of a laboratory to serve the field station in Wheeling, W. Va. The upper Ohio is now being coded in accordance with the river mile indexing system developed by the Basic Data Branch of the Division. Newly developed computer programs are being employed to retrieve stored data obtained from sampling programs.

In the lower Ohio portion of the project with headquarters at Evansville, Ind., a small staff is engaged in studies of the water quality aspects of five proposed Corps of Engineers reservoirs in the Wabash River Basin.

The request for 1965 provides for some expansion of the Evansville staff to intensify the project's efforts on the lower Ohio, although primary emphasis will again be placed on the upper portion of the basin. Instrumentation of the upper Ohio for the collection of water quality data will be completed. Intensive field and laboratory investigations will continue on the Kanawha River (where a cooperative effort with the Corps of Engineers began in 1964) and in other areas. The project will utilize an economic base study of the Ohio Basin to be conducted by a firm under contract with the Corps of Engineers, and break down subbasin data by individal county to conform with corresponding tributaries. Other coordinated efforts among the diverse Federal agencies operating the Ohio Basin are now well underway and will continue in 1965.

Southeastern basin.—This project was initiated in 1964. Detailed study plans will first be prepared for the Apalachicola-Chattahoochee-Flint Basin, the most densely populated in the area. Public Health Service efforts in this basin will utilize and complement a previous study undertaken by the Southeast U.S. Study Commission and utilize an economic base study of this basin now in the process of development by a private firm for the Corps of Engineers. In addition, the development of a work plan for a study of the Pearl River is expected to begin during 1964. To insure cooperation among the various agencies working in the southeastern basin, there will be established working advisory-coordination committees, composed of State and Federal representatives.

The 1965 expansion will permit the project to establish a small laboratory to provide the necessary support for fieldwork, enable the start of field investigations in the Upper Chattahoochee River Basin (including the area surrounding Atlanta, Ga.) and initiate studies of the Pearl-Big Black-Pascagoula system in close coordination with concurrent investigations by the Corps of Engineers and the Soil Conservation Service.

Tri-State metropolitan project.—The 1965 plan is to establish a field station in the Albany, N.Y., area to study the problems of the Hudson River, Mohawk Valley, and Lake Champlain. Oceanographic studies and studies of the Narrows, the New York inner harbor, Raritan River, and Arthur Kill can be initiated from a laboratory and field station at Metuchen, N.J. (the present site of an enforcement investigation). A start can also be made to deal with problems of ground water pollution on Long Island.

2. Management phase

Arkansas-Red River Basin.—The intensive investigations phase of the Arkansas-Red River Basin water quality project was completed in 1963. The final report will deal with sources of salt pollution, possible corrective measures, and the effect on water quality of control at various sites. The Corps of Engineers is preparing detailed plans for construction of control measures. Funds were made available for the initial control work on an experimental basis at Estelline Spring and the Corps of Engineers is now building an impoundment at that site. The project is monitoring water quality to determine the effectiveness of the control measures so as to be in a position to suggest modifications of the plans to increase effectiveness as the work progresses.

The increase is to provide built-in costs.

Enforcement activities

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	302	$2,167,536	329	$2,390,936	+27	+$223,400
Other expenses		1,435,464		1,435,064		−400
Total	302	3,603,000	329	3,826,000	+27	+223,000

SUMMARY OF PROGRAMS

A. Reconnaissance surveys and investigations, proceedings, and surveillance	89	$990,000	89	$1,000,000		+$10,000
B. Enforcement projects:						
1. New studies and investigations			24	240,000	+24	+240.000
2. Colorado River	57	727,000	57	704,000		−23,000
3. Washington State	36	488,000	36	485,000		−3,000
4. Detroit River	30	319.000	19	211,000	−11	−108,000
5. Raritan Bay	30	429,000	30	413,000		−16,000
6. South Platte River Basin	18	210,000	23	281.000	+5	+71,000
7. Twin Cities-Upper Mississippi	26	265,000	35	310,000	+9	+45,000
C. Abatement of pollution from Federal installations	16	175,000	16	182,000		+7,000
Total	302	3,603.000	329	3,826.000	+27	+223,000

GENERAL

Enforcement lies at the very heart of any effective program in the elimination, prevention, and control of pollution. The expansion of the enforcement activity is in full response to the extent of the problem and its associated needs as defined under congressional mandate. The enforcement authority and enforcement measures will be applied as indicated to be necessary in achieving the national goal of "sufficient water sufficiently clean" to serve all legitimate water uses.

The net increase for this activity is $223,000. However, due to nonrecurring equipment costs and the phasing out of the Detroit-Lake Erie project offset by built-in costs, the program increase is $435,000. This will provide for the necessary expansion of two major on-site projects started in 1964 and permit the initiation of one to three new projects if necessary.

A. Reconnaissance surveys and investigations, proceedings, and surveillance

(1) *Reconnaissance surveys and investigations.*—This involves the identification and evaluation of interstate or navigable waters to determine the existence or nonexistence of pollution. The extent of surveys and investigations depends on the data available and whether such data is adequate to support a firm determination of the existence or nonexistence of pollution abatable under the enforcement procedures of the act or inadequate to support an action to its ultimate conclusion. In many cases, based on past experience, this requires some type of field investigation.

The 1965 program provides for the continued investigation and evaluation of new interstate areas and permits the securing of additional technical and scientific data in other areas. It also provides for the continuous updating and reevaluating of the data on over 200 existing reports on interstate areas.

(2) *Proceedings.*—This involves the Secretary calling a conference of State water pollution control and interstate agencies, if any, concerned in an enforcement action. These conferences are called to present the facts and develop measures to remedy pollution situations. This enables all concerned to consolidate their efforts and resources in approaching a solution and establish a program or schedule of remedial action. While the conditions upon which a conference is authorized vary, the mechanics of calling and holding a conference normally do not.

From 1956 through December 31, 1963, 29 actions have been instituted, of which 27 remain under Federal enforcement jurisdiction. To date, work accomplished to secure abatement resulting from conference action has been sufficient in all but four instances where public hearings were held. In one instance, a city had been taken to court. More than half of these actions (16) were instituted on the basis of the discretionary authority vested in the Secretary by the act.

In the first half of 1964, nine new actions were instituted and conferences held or scheduled. These actions include the following geographically diversified streams and attendant pollution problems:

Action area	Date of initiation	Disposition
1. Coosa River (Ala.-Ga.)	Aug. 27, 1963	Remedial program established.
2. Pearl River (La.-Miss.)	Oct. 22, 1963	Remedial program established.
3. South Platte River (Colo.)	Oct. 29, 1963	Partial remedial program established and onsite study initiated.
4. Menominee River (Mich.-Wis.)	Nov. 6, 1963	Remedial program established.
5. Connecticut River (Mass. and Conn.).	Dec. 2, 1963	Remedial program established.
6. Monongahela River (Md.-W. Va. and Pa.).	Dec. 17–18, 1963	Municipal and industrial remedial program established. Acid coal mine drainage problem under study by technical committee.
7. Snake River, Lewiston - Clarkson area (Idaho-Wash.).	Jan. 15, 1964	Criteria for remedial program to be established.
8. Upper Mississippi River (Minn.-Wis.).	Feb. 7, 1964	On-site study initiated.
9. Merrimack River-Nashua River (N.H.-Mass.).	Feb. 11, 1964	

This increased tempo of enforcement actions is expected to continue during the last half of 1964. In additon to these and other new actions, six interim conference sessions will be held on actions taken in prior years.

In 1965 the accelerated emphasis on enforcement to abate pollution of interstate and navigable waters is expected to trigger the initation of an increased number of new enforcement actions.

(3) *Surveillance.*—Following completion of all remedial action, a postaction surveillance program is established to assure continuance of adequate pollution control.

The extent and nature of the program established depends on the remedial action and pollution problems involved. Of the twenty actions taken through 1963, surveillance activity in one form or another is being conducted in 16 areas. Generally, these will continue in 1964 and 1965 in addition to new remedial actions which may be established.

B. Enforcement projects

The four on-site projects initiated prior to 1964 (Colorado River, Washington State, Detroit River, and Raritan Bay) have been expanded to develop additional data needed to bring these actions to a satisfactory conclusion. In 1965, the Detroit River study will start phasing out; while the three remaining projects will continue at about the same level of operation as in 1964.

As a result of the 1964 actions instituted to date, two major on-site studies were started to develop required scientific and technical data necessary to the effective resolution of highly complex pollution situations. These include the South Platte (Colorado) River and the Upper Mississippi River. The 1965 increase will enable the necessary expansion of these two projects. In addition, based on previous experience, the 1965 actions will result in the need for other major on-site studies. The increase in 1965 will permit the initiation of one to three such projects depending on the extent of the problem in those pollution situations where they are indicated to be necessary and required.

C. Abatement of Pollution from Federal installations

A congressional mandate and a Presidential directive are the basis for the intensified executive branch action program to take the lead in correcting deficiencies in waste treatment practices at Federal installations to set an example in water pollution control.

This program, which began in 1963, is progressing rapidly in 1964 and will continue in 1965. Based on the inventory of waste treatment practices at Federal installations, regional and field staff are making on-site surveys and preparing reports on the need for new, improved, and additional treatment facilities at installations in the 50 States, Puerto Rico, the Virgin Islands, and Guam.

Research, training, and technical services

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	633	$4, 727, 972	753	$5, 423, 172	+120	+$695, 200
Other expenses		3, 221, 028		4, 700, 828		+1, 479, 800
Total	633	7, 949, 000	753	10, 124, 000	+120	+2, 175, 000

SUMMARY OF PROGRAMS

Research	208	3, 043, 000	291	3, 431, 000	+83	+388, 000
Collection, analysis, and dissemination of basic data	121	1, 347, 000	128	1, 412, 000	+7	+65, 000
Technical services	162	1, 844, 000	192	3, 504, 000	+30	+1, 660, 000
Training	15	267, 000	15	277, 000		+10, 000
Construction grants services	127	1, 448, 000	127	1, 500, 000		+52, 000
Total	633	7, 949, 000	753	10, 124, 000	+120	+2, 175, 000

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Research	208	$3, 043, 000	291	$3, 431, 000	+83	+$388, 000

In order to fulfill the Federal responsibility for leadership and accomplishment in water pollution research, and in planning and programing research activities, six broad areas of needed research have been defined. These are:

1. Identification and measurement of pollutants: Present methodology for detecting and measuring significant pollutants is deficient to adequately assess our water pollution problem and devise effective program for controlling pollutants. Improvement in method is essential if we are to be able to trace pollutants to their origin.

2. Determination of the effects of pollution on water quality and water use: Many new wastes are being discharged into waters where they appear as discrete pollutants. In order to establish standards for water use, methods are needed to measure and fully assess the characteristics of wastes and natural pollutants where traditional parameters no longer apply.

3. Treatment of wastes and contaminated water: Research in this area is directed toward the effective removal of pollutants. Advanced waste treatment is a special aspect of this overall problem and the major goal of the effort is directed toward treating wastes to remove the maximum possible amounts of pollutants to permit repeated reuse of the Nation's waters.

4. Disposal of waste effluents: While wastes have been discharged into waters, little is known of the most effective means of their dispersal to prevent pollution problems. The basic principles of waste disposal in waters and soils must be defined and applied. Our efforts are directed toward determining the persistence and dispersion of wastes as they are discharged into soil mantle or receiving waters.

5. Control of wastes at their source: The problems of water pollution from land drainage, including agricultural, urban, and storm drainage continues to require research for control at the source.

6. Water resource management (regulation of streamflow to control pollution): No practical treatment process is yet available that will remove all impurities from sewage and industrial wastes. Therefore, protection of the

water resource may be accomplished by augmenting streamflow to reduce the concentration of pollutants below hazardous levels. Procedures for evaluating and predicting the quality changes that take place in impounded waters are under study.

The increase for 1965 is designed to initiate and plan for research activities to be conducted in the water pollution control laboratories and the national water quality standards laboratories. Of the 83 new positions requested, 73 are for four field laboratories (Ada, Okla.; Corvallis, Oreg.; Athens, Ga.; and College, Alaska) and the water quality standards laboratory (Kingston, R.I.) scheduled to be operational before end of calendar year 1965. The remaining 10 positions are to establish a nuclear staff for 2 field laboratories (Boston, Mass., and Ann Arbor, Mich.) and the water quality standards laboratory (Duluth, Minn.) scheduled to be operational by the end of fiscal year 1966. The net total cost of these positions for 1965 is $351,000.

The balance of the increase is for built-in costs, including annualization of 16 new positions authorized in 1964 and increased pay costs.

	1964 estimate		1965 estimate		Increase (+) or decrease	
	Position	Amount	Position	Amount	Position	Amount
Collection, analysis, and dissemination of basic data	121	$1,347,000	128	$1,412,000	+7	+$65,000

The activity provides for a series of sampling stations located at key points in river systems to provide information relating to the effects of water use on water quality and to provide continuing data on the nature and extent of pollutants. This information is essential in the development of comprehensive water resources programs, supporting enforcement activities, and also in assisting State, interstate, and other agencies in their control programs.

The activity also maintains an inventory of municipal water and sewage facilities and data on municipal bond sales, contracts awarded, and completed construction. These data are provided on request to meet special needs of Federal, State, and local agencies and various industries. Some of the more widely used data is published periodically.

An increase of seven positions and $30,000 is requested to establish water pollution data collection activities for four field laboratories to become operational before December 31, 1965. Biological specialists will be employed to plan for studies of stream bottoms and sampling fish populations at selected stretches of rivers. This work will be coordinated with the overall biological effort centered in Cincinnati to correlate micro- and macro-biological populations with pollutional loads.

The remaining $35,000 is to annualize eight positions authorized in 1964 and finance increased pay costs.

Technical services

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
1. Technical assistance:						
(*a*) Basic program	92	$808,000	95	$839,000	+3	+$31,000
(*b*) Recreation and water quality	8	142,000	8	144,000		+2,000
(*c*) Klamath River study	5	44,000	8	103,000	+3	+59,000
(*d*) Pesticides as water pollutants	20	216,000	30	320,000	+10	+104,000
(*e*) Demonstration of acid mine drainage control and abatement	7	248,000	12	1,540,000	+5	+1,292,000
(*f*) Charleston Harbor-Cooper River study			9	150,000	+9	+150,000
2. Research and training grant services	25	271,000	25	288,000		+17,000
3. Technical and public reports	5	115,000	5	120,000		+5,000
Total	162	1,844,000	192	3,504,000	+30	+1,660,000

Technical assistance

(*a*) *Basic program.*—Under the basic program expert consultation on specific local problems has been provided to assist State, interstate and local water pollution control authorities. In addition, intelligence is maintained and technical information provided on national and regional water pollution control problems.

Several examples of on-the-spot field or laboratory assistance rendered during the past year are as follows:

> To States of Minnesota and Wisconsin in the evaluation of the water pollution effects of soybean and mineral oil spillage.
>
> To State of North Carolina in the confirmation of the suspected cause of a large fish kill on the Roanoke River.
>
> To State of California and the Bureau of Reclamation in dealing with aquatic nuisance problems stemming from irrigation development projects.

The increase for 1965 includes three positions and $12,000 for technical assistance activities to be established in the new regional laboratories. The additional increase of $16,000 is needed to meet the increased pay costs and the annualization of new laboratory positions authorized in 1964.

(*b*) *Recreation and water quality.*—Studies conducted under this activity are to evaluate the effects on water quality which result from intensive use of a watershed and reservoirs for recreation and to evaluate the feasibility of utilizing treated waste waters for recreational purposes.

The $2,000 increase is requested to meet the additional pay costs.

(*c*) *Klamath River study.*—In 1964 a water pollution control study was started in the Klamath River Basin, where fish kills, wildfowl kills, human dermatitis and other problems have occurred. The study is primarily directed toward pollution from excessive algae growths and pollution thought to result from intensive land use, where runoff waters carry significant quantities of minerals, pesticides, and fertilizers leached from the soil.

In 1964, funds were reprogramed to immediately initiate this essential project. The increase for 1965 is needed to intensify the field investigations and analyses. This requires three additional positions and $53,000. The additional $6,000 is to finance the built-in costs.

(*d*) *Pesticides as water pollutants.*—Since 1959 the Division has been conducting a field and laboratory study dealing with the impact of pesticides on water quality and measures that may be taken to protect the water quality. This project, currently operating out of a small laboratory in Atlanta, Ga., is now using the gas chromatographic system for the detection and measurement of pesticides. It is the most effective analytical method currently available for this purpose.

It is now confirmed that pesticides used in the normal pursuits of man have found their way into the aquatic environment. Therefore, efforts are being directed toward determining why and under what natural circumstances these pesticides enter this environment. In its report on the use of pesticides the President's Science Advisory Committee recommended programs to assess the levels of pesticides in man and his environment. The 1965 request is responsive to this recommendation in our particular area of responsibility, i.e., combating water pollution. It is proposed that the study be expanded by 10 positions and $100,000. This will permit developing information concerning concentrations of pesticides throughout the fish food chain (diatons, protozoans, crustaceans, aquatic insects, fishes) and evaluating the effects of water contamination on the aquatic life and the accumulation of pesticides in human foods derived from the water.

Also, emphasis will be placed on investigations into the effects on water (particularly potable water supplies) of the various pesticide chemicals under their conditions of use and means of removal and/or control to subclinical levels.

The 1965 increase also permits annualization of new positions authorized in 1964 and increased pay costs for existing staff.

(*e*) *Demonstration of acid mine drainage control and abatement.*—Abatement of acid pollution may be the key to development of depressed areas in the Appalachian region. At present, more than 4,000 miles of major streams in the United States are polluted by acid from abandoned mines, refuse piles, and other sources. Acid pollution destroys fish and fish food organisms, prevents use of streams for recreational purposes, corrodes transportation equipment, necessitates expensive treatment procedures for water that must be utilized for municipal and industrial purposes, and creates unsightly esthetic conditions.

In response to a request of the Committee on Public Works, House of Representatives, in April 1963, the Public Health Service prepared a report which recommended that the implementation of a three-point program dealing with acid mine drainage be preceded by demonstrations of procedures and results of acid mine drainage control. On another front, the Secretary of Interior, in response to a request by the House Committee on Government Operations, announced plans in July 1963. to undertake a study that would develop basic information for legislative recommendations to curb stream pollution from acid mine drainage.

In the interest of economy and efficiency, a single coordinated demonstration program dealing with acid mine drainage has been developed by the Department of Health, Education, and Welfare and the Department of Interior. The Department of Interior will be responsible for the development of mapping, geological studies, surface and ground water hydrology. The Department of Health, Education, and Welfare will be responsible for water pollution studies and general project direction.

The demonstration methods for clearing up pollution caused by acid mine drainage may include physical construction of equalizing reservoirs, sealing of mines, and the diversion of surface or ground water from mining areas or a combination of these methods. To accomplish this work, competencies of other Federal and private agencies will be used in addition to laboratory facilities of Federal and State agencies, when possible. It is anticipated demonstration projects will be conducted at two sites.

In 1964 $250,000 was reprogramed to begin the demonstration of acid mine drainage control and abatement. Efforts in 1964 are being directed toward (*a*) assembling key staff: (*b*) setting up a joint Federal-State advisory group: (*c*) locating and obtaining access to the demonstration sites: (*d*) measuring stream conditions before application of acidity control measures: and (*e*) making topographical and mine maps of the areas.

In 1965 the investigations to determine the optimum combination of control measures will be completed, engineering designs and specifications will be completed, and contracts for the construction of structures to demonstrate control measures will be awarded.

To carry out this program in 1965, an increase of $1,292.000 is necessary. The total requirement of the interdepartmental study plan is $1,540,000 and includes $160.000 for the Division of Water Supply and Pollution Control, $280,000 to reimburse Department of Interior for the work to be performed by the Bureau of Mines and Geological Survey, and $1,100,000 for contract construction.

(*f*) *Charleston Harbor-Cooper River study.*—The U.S. Army Corps of Engineers has been investigating the Cooper River, S.C., with a view to reducing shoaling rates in Charleston Harbor, a key base of the U.S. Navy. Possible remedial measures include plans to divert a portion of the Cooper River away from the harbor in order to prevent excessive silting. Since such measures would substantially modify the flow of fresh water into the harbor, their effects on the harbor pollution problem, water supply, and other public health aspects require evaluation.

In view of the urgency for completing the overall investigation of Cooper River the Army Corps of Engineers plans to finance the first-year cost (1964) of the study. However, readily recognizing the responsibility of the Department in these matters, they have requested the Secretary to include funds in the HEW budget for 1965 and subsequent years to complete the water pollution control aspects of the study. The study will include determinations of present organic waste loads, the present biological, bacteriological, chemical, physical, and biochemical quality, organic waste assimilative capacity under present waste loads and fresh water inflow conditions and under proposed rediversion schemes for varying organic waste loadings. $150,000 and nine positions are required in 1965 for this purpose.

Research and training grant services

This activity provides technical and administrative staff services for the extramural research, training, demonstration grant, and research fellowship programs in water supply and pollution control. It also includes funds for the National Institutes of Health services involved in the review and payment of research grants. The staff supported by these funds provides services to outside consultants for reveiew of applications: maintenance of communications with grantees and applicants: and provides the technical and administrative management support for the grant programs. The activity also operates a research information retrieval system as a service to scientists, engineers, and administrators in the field of water supply and pollution control. This system provides up-to-date reference information to conserve research manpower for maximum utilization on actual research work, to coordinate research investigations, and to avoid unnecessary duplication of effort. The information and documentation on water pollution research completed or in progress serves as a basis for management decisions on the direction of research planning and the effective distribution of support. The increase for 1965 includes an additional $5,000 for annualization and pay increase costs for existing staff, and an additional $12,000 to pay NIH for research grant services.

Technical and public reports

This activity provides assistance in developing both technical and public reports and in reporting the results of research, investigation, and demonstrations relating to the prevention and control of water pollution. This is accomplished as follows: (1) providing technical staff with writing and editorial support; (2) disseminating information to the scientific community aimed at improving communications and speeding up the application of new knowledge and techniques; and (3) through the Advertising Council and in other ways creating public awareness of the water pollution problem and complementing and supplementing the educational work of State and local agencies and private organizations.

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Training	15	$267,000	15	$277,000	--------	+$10,000

The growing shortage of skilled personnel in all fields of engineering and science, together with the increasing diversity and complexity of water supply and pollution control problems, makes advanced training a matter of high priority. There is also a need to improve and accelerate the flow of information resulting from research and technological improvements to the practicing engineers and scientists in the field. The training program provides for technical training of qualified personnel from other Federal, State, and local agencies, universities and industry, and for graduate training of our own personnel in specialized disciplines.

(*a*) *Technical training.*—In addition to the primary objective of upgrading professional skills, the technical training program bridges the customary timelag between research and application to place the knowledge at the immediate disposal of professional and technical personnel of State and local agencies and industries responsible for water pollution control activities.

In 1963 the program trained 556 people, in conducting 12 courses and participating in 3 training institutes. In 1964 it is anticipated the program will train in excess of 600 people, in conducting 17 courses and participating in 4 training institutes. The number of people trained and courses and institutes to be conducted in 1965 are expected to remain the same as in 1964.

(*b*) *Graduate training.*—A few selected Public Health Service officers and civil service employees are assigned to universities each year for specialized resident study at the graduate level. The assignments have been successful in increasing the number of key personnel with advanced training. Most of those who have completed such assignments have progressed to more advanced duty assignments than those they held before their training. The 1965 estimate includes seven positions which is the same as in 1964.

The increase of $5,000 for 1965 is to finance the increased pay costs.

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Construction grants services	127	$1,448,000	127	$1,500,000	--------	+$52,000

The responsibilities of this activity are to administer and evaluate the effectiveness of the waste treatment works construction grants program.

In 1965 the grant program budget includes $90 million for grants to any State, municipality, intermunicipal, or interstate agency to assist in the construction of sewage treatment works. The funds are allotted to the States and other specified jurisdictions according to a statutory formula based on population and economic need.

Administration of the program includes processing and reviewing applications, making grant offer, reviewing plans and specifications, authorizing bid advertising, reviewing bids and approving award of contracts, inspecting completed construction, processing grant payments, conducting operations and maintenance surveys, and fulfilling collateral responsibilities relating to programs dealing with prevailing wage, antikickback, contract work hours standards, and equal employment opportunities. To facilitate more accurate and prompt reporting for internal and external requirements related to these and other activities, the conversion to an electronic data processing system will be completed in 1965.

Effectiveness of the program is measured through the volume of contract awards, population served, water quality improvement, reduction in backlog and other factors.

The workload of this activity can best be demonstrated by the following statistics:

Workload statistics

	1961 actual	1962 actual	1963 actual	1964 estimate	1965 estimate
Number of—					
Grant offers	590	754	906	900	900
Plans and specifications	580	760	850	850	900
Construction starts	577	604	806	800	900
Payment inspections	1,300	1,500	1,735	1,800	2,200
Plants finished	549	498	573	655	800
Operation inspections		12	595	1,000	650

The increase for 1965 represents annualization costs for 14 new positions authorized in 1964 and pay increase costs for existing staff.

New positions requested, fiscal year 1965

	Grade	Annual salary
COMPREHENSIVE PLANNING		
Scientist	GS-15	$15,683
2 engineers	GS-14	27,248
2 engineers	GS-13	23,462
5 scientists	GS-13	58,655
Administrative officer	GS-12	9,984
6 engineers	GS-12	59. 904
Public health program specialist	GS-12	9,984
5 scientists	GS-12	49,920
3 engineers	GS-11	25,272
Public health program specialist	GS-11	8,424
4 scientists	GS-11	33,696
6 engineers	GS-9	42,180
3 public health program specialists	GS-9	21,090
4 scientists	GS-9	28. 120
2 engineering assistants	GS-7	11,606
Research technician	GS-7	5,803
Clerical assistant	GS-6	5. 242
5 clerical assistants	GS-5	23. 505
4 laboratory technicians	GS-5	18,804
5 clerical assistants	GS-4	21,110
3 laboratory technicians	GS-4	12,666
2 clerical assistants	GS-3	7,780
2 laboratory technicians	GS-3	7,780
Clerical assistant	GS-2	3,640
Commissioned officers:		
3 director grades		21,342
2 full grades		9,604
Senior assistant grade		3,912
Subtotal (76)		566,416

New positions requested, fiscal year 1965

	Grade	Annual salary
ENFORCEMENT ACTIVITIES		
3 engineers	GS-13	$35, 193
Scientist	GS-13	11, 731
2 scientists	GS-12	19, 968
2 scientists	GS-11	16, 848
2 scientists	GS-9	14, 060
2 engineering assistants	GS-7	11, 606
2 research technicians	GS-7	11, 606
Clerical assistant	GS-5	4, 701
3 laboratory technicians	GS-5	14, 103
2 clerical assistants	GS-4	8, 444
3 laboratory technicians	GS-4	12, 666
Research technician	GS-4	4, 222
Clerical assistant	GS-3	3, 890
Laboratory technician	GS-3	3, 890
Commissioned officers:		
2 senior grades		11, 382
2 full grades		9, 604
4 senior assistant grades		15, 648
4 assistant grades		12, 448
Subtotal (38)		222, 010
Decreases for phasing out Detroit River study (−11)		−76, 731
Subtotal (27)		145, 279
RESEARCH, TRAINING AND TECHNICAL SERVICES		
3 engineers	GS-15	47, 049
3 engineers	GS-14	40, 872
4 public health program specialists	GS-14	54, 496
2 scientists	GS-14	27, 248
2 administrative officers	GS-13	23, 462
12 scientists	GS-13	140, 772
3 engineers	GS-12	29, 952
3 scientists	GS-12	29, 952
Administrative officer	GS-11	8, 424
Engineer	GS-11	8, 424
6 scientists	GS-11	50, 544
5 scientists	GS-9	35, 150
8 engineering assistants	GS-7	46, 424
13 research technicians	GS-7	75, 439
Clerical assistant	GS-6	5, 242
11 clerical assistants	GS-5	51, 711
Laboratory technician	GS-5	4, 701
11 clerical assistants	GS-4	46, 442
2 laboratory technicians	GS-4	8, 444
Research technician	GS-4	4, 222
5 clerical assistants	GS-3	19, 450
Commissioned officers:		
10 director grades		71, 140
6 senior grades		34, 146
3 full grades		14, 406
3 senior assistant grades		11, 736
Subtotal (120)		889, 848
Total new positions, all activities (223)		1, 601, 543

GRANTS FOR WASTE TREATMENT WORKS CONSTRUCTION

WITNESSES

GORDON E. McCALLUM, CHIEF, DIVISION OF WATER SUPPLY AND POLLUTION CONTROL

JOHN T. BARNHILL, ACTING DEPUTY CHIEF, DIVISION OF WATER SUPPLY AND POLLUTION CONTROL

MATTHEW C. PILZYS, FINANCIAL MANAGEMENT OFFICER, DIVISION OF WATER SUPPLY AND POLLUTION CONTROL

DAVID H. HOWELLS, CHIEF, CONSTRUCTION GRANTS BRANCH, DIVISION OF WATER SUPPLY AND POLLUTION CONTROL

DR. ROBERT J. ANDERSON, CHIEF, BUREAU OF STATE SERVICES

PETER J. BERSANO, FINANCIAL MANAGEMENT OFFICER FOR ENVIRONMENTAL HEALTH PROGRAMS

DR. LUTHER L. TERRY, SURGEON GENERAL

HARRY L. DORAN, CHIEF FINANCE OFFICER

JAMES M. QUIGLEY, ASSISTANT SECRETARY

JAMES F. KELLY, DEPARTMENT BUDGET OFFICER

Program and financing

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
Program by activities: Grants for construction (costs—obligations) (object class 41)	93,349	93,000	90,000
Financing:			
Unobligated balance brought forward	−22,649	−19,300	−16,300
Unobligated balance carried forward	19,300	16,300	16,300
New obligational authority (appropriation)	90,000	90,000	90,000

Mr. FOGARTY. Are you going to justify the grants for waste treatment works construction?

GENERAL STATEMENT

Mr. McCALLUM. Yes, sir.

Mr. Chairman and members of the committee, the Federal Water Pollution Control Act, as amended, authorizes grants to cities and other specified jurisdictions for the construction of necessary treatment works to prevent the discharge of untreated or inadequately treated wastes into any waters. The 1964 Appropriation Act provided $90 million and authorization to allocate to the States on the basis of $100 million. The same amount and authorization is requested for 1965.

Grants are made to municipalities sponsoring such projects and the maximum grant to a single project is 30 percent of the cost or $600,000, whichever is smaller. In the case of a multimunicipal project, the grant is based on each community's share of the project cost, under the 30 percent or $600,000 limitation, but the maximum grant for the combined project may not exceed $2.4 million.

This grant program has provided marked stimulus to construction of essential waste treatment works. Construction activity has more than doubled during the course of the program and construction contracts reached an alltime high of $683 million in 1963. This, together with other project costs, represents a total investment of about $820 million for waste treatment facilities during the past year. About 20 percent of this construction was supported by the public works acceleration program. This level of construction is reducing the backlog of more than 6,000 needed projects reported by the Conference of State Sanitary Engineers.

From the enactment of the Federal Water Pollution Control Act in 1956 to January 1, 1964, an aggregate of 4,813 applications have been approved for grants totaling $434 million, thus aiding in construction of waste treatment works costing $2.4 billion. The States report an additional 1,476 grant requests requiring $173 million in Federal funds.

It is estimated that the $90 million request for fiscal year 1965 will provide grants for 900 projects.

Mr. Chairman, I shall be glad to answer any questions I can which you may wish to ask.

DEMAND FOR FUNDS AND AVAILABILITY OF MATCHING FUNDS

Mr. Fogarty. The appropriation for 1964 is $90 million and the request for 1965 is for the same amount. The demands continue to far exceed the funds available, is that right, according to your statements?

Mr. McCallum. Right.

Mr. Fogarty. Is the local matching continuing at about 5 to 1?

Mr. McCallum. That is right, sir.

Mr. Fogarty. If there are unlimited funds, how much do you estimate would be required in 1965 to fund all approvable applications?

Mr. McCallum. We estimate at the end of the fiscal year, a backlog of about 1,500 applications, which would require $140 million.

Mr. Fogarty. That is for this fiscal year?

Mr. McCallum. Yes, sir.

Mr. Fogarty. What about next year?

Mr. McCallum. We have estimated it would be at least that much.

ALLOTMENT BASE

Mr. Fogarty. Now an allotment base of $100 million was provided in the appropriation language for 1964 which, in effect, gives you a $90 million appropriation and $10 million contract authority. Will this necessitate a deficiency appropriation?

Mr. McCallum. Yes; we think it will.

Mr. Fogarty. What amount?

Mr. McCallum. Anywhere between $600,000 to $1 million.

Mr. Fogarty. Do you have a request for this deficiency?

Mr. McCallum. We will not know until after December 31, 1964, just what it will be.

Mr. Kelly. It is a close question. Although it is contract authority, the nature of the reallotment authority the Congress gave us provides we will not use the reallotment authority contained in the basic legislation. To the extent any State will not use its full requirement, we will not use the contract requirement. It may be we will not use any deficiency; and, if we do, it will probably be only in the range of $1 million.

This is sufficiently close for us to wait until near the end of the fiscal year to request it.

STATES AND TERRITORIES THAT DO NOT USE FUNDS ALLOCATED TO THEM

Mr. Fogarty. What States and territories do not use their full allocation?

Mr. McCallum. The Virgin Islands have never used any of their allocation. I think Mississippi, South Dakota——

Mr. Fogarty. Do you think they have any problem down there?

Mr. McCallum. Yes, sir; they do have. As a matter of fact, I discussed it with the Governor last fall. We are hoping that they will get started.

Mr. Fogarty. Is it a bad situation?

Mr. McCallum. They have closed some recreational areas.

Mr. Fogarty. Why do they not take advantage of it?

Mr. McCallum. I think it is partly the question of matching funds. Other demands——

Mr. Fogarty. I thought they ought to do it pretty well. I thought their economy was on the upgrade every year.

Mr. McCallum. It was my understanding that there is a problem of getting the 70 percent to match our 30 percent.

Mr. Chairman, we have some other States and jurisdictions that did not use all their funds last year: Alaska, Delaware, Idaho, and Montana.

Mr. Fogarty. Do not tell me they do not have the matching money.

Mr. Pilzys. Mr. Chairman, they have used 93 percent of their allocation. We are just indicating here those that have not used their full allocation.

Mr. Fogarty. What about Montana?

Mr. McCallum. Seventy-one percent.

Mr. Fogarty. What about Idaho?

Mr. Pilzys. Ninety-seven percent, sir.

Mr. Fogarty. They are pretty close, then. The Virgin Islands have not used any?

Mr. McCallum. No.

Mr. Fogarty. That would not be a very good ad for them, would it? For the tourist business?

Is there anything else you would like to say?

Mr. McCallum. Only to thank you very much.

Mr. Fogarty. Thank you. We will place the justifications in the record.

JUSTIFICATION MATERIAL

(Following is the justification material submitted to the committee:)

GRANTS FOR WASTE TREATMENT WORKS CONSTRUCTION

Amounts available for obligation

	1964	1965
Appropriation	$90,000,000	$90,000,000
Unobligated balance brought forward	19,300,185	16,300,185
Unobligated balance carried forward	−16,300,185	−16,300,185
Total	93,000,000	90,000,000

Obligations by activity

	1964 estimate	1965 estimate	Increase or decrease
Grants for construction	$93,000,000	$90,000,000	−$3,000,000

Obligations by objects

	1964 estimate	1965 estimate	Increase (+) or decrease (−)
41 Grants, subsidies, and contributions	$93,000,000	$90,000,000	−$3,000,000

Summary of changes

1964 enacted appropriation	$90,000,000
Estimate for 1965	90,000,000
Total change	----------

Grants for waste treatment works construction

	Budget estimate to Congress	House allowance	Senate allowance	Appropriation
1957	$50,000,000	(1)	$50,000,000	$50,000,000
1958	50,657,000	$50,657,000	45,657,000	45,657,000
1959	46,816,000	46,816,000	46,816,000	46,816,000
1960	21,101,000	46,101,000	46,101,000	46,101,000
1961	25,000,000	[2] 45,000,000	50,000,000	45,645,260
1962	80,000,000	80,000,000	80,000,000	80,000,000
1963	90,000,000	90,000,000	90,000,000	90,000,000
1964	100,000,000	90,000,000	[3] 90,000,000	[3] 90,000,000
1965	[3] 90,000,000	----------	----------	----------

[1] Not considered by House.

[2] Supplemental of $5,000,000 not considered by the House.

[3] Funds to be allotted on basis of $100,000,000 and to be available for obligation for 18 months only.

The Federal Water Pollution Control Act, as amended by Public Law 87–88, authorizes the appropriation of funds for grants to aid in the construction of municipal sewage treatment facilities. These funds are apportioned to the States and other jurisdictions according to a formula prescribed in the statute. In acting on the 1964 request, Congress appropriated $90 million but provided that it be allotted on the basis of the $100 million authorization and restricted the obligational authority to December 31, 1964. This same provision is requested for 1965 with obligational authority to be available until December 31, 1965.

Since the enactment of the Federal Water Pollution Control Act of 1956, the stimulus provided by these grants has increased sharply the construction of municipal waste treatment facilities. During the pregrant period of 1952–56, contract awards averaged $220 million annually. With other project costs, this represented a total average annual investment of $270 million. Under the 1956 act, construction activity increased 62 percent to an average annual contract award level of $360 million. With the additional financial assistance provided under the 1961 amendments to the Federal Water Pollution Control Act, construction expanded again with contract awards reaching $449 million in 1961 and $545 million in 1962, for a total annual investment of $540 million and $654 million, respectively. This represented a 25-percent increase in 1961 and a 51-percent increase in 1962 over the contract award average of the first 4 years of the program.

As of December 1963, 4,813 grants totaling $434 million have been made for waste treatment works projects costing $2.4 billion. The ratio of local to Federal dollars invested has been about 5 to 1. This construction in the aggregate will provide adequate treatment of wastes for a population of more than 41 million. Water quality in approximately 45,000 miles of the Nation's streams and in lake and ocean waters along many miles of shorelines will be substantially improved.

Grant requests known to be in preparation or under review as of December 31, 1963, numbered 1,476 and amounted to $173 million. State agencies have reported that 5,831 communities need new sewage treatment plants or enlargement or additions to existing facilities to serve an aggregate of 35.8 million people. The total cost of construction needed to meet these requirements is over $2 billion. To satisfy this need by 1973, which is the end of the 10-year period generally mentioned as time necessary to eliminate the backlog, and to keep up with the new needs that will develop as the population grows and existing treatment works become obsolete, will require an average annual investment of at least $700 million.

The 1965 appropriation of $90 million and allocation on the basis of $100 million will provide grants for approximately 900 projects.

Allocations of grant-in-aid funds for waste treatment works construction

State or territory	1963 allocations	1964 estimate	1965 estimate
Alabama	$1,905,615	$2,117,500	$2,121,800
Alaska	656,460	730,500	745,500
Arizona	1,126,035	1,242,450	1,256,850
Arkansas	1,642,680	1,789,450	1,779,550
California	4,477,410	4,976,200	4,979,850
Colorado	1,138,545	1,255,650	1,272,400
Connecticut	1,183,950	1,325,300	1,318,000
Delaware	639,450	717,700	729,550
District of Columbia	728,055	801,550	808,450
Florida	2,027,385	2,268,000	2,286,350
Georgia	1,980,045	2,192,000	2,188,400
Hawaii	890,640	954,700	959,650
Idaho	1,037,025	1,178,600	1,185,200
Illinois	3,105,180	3,450,800	3,446,800
Indiana	1,897,065	2,102,750	2,099,100
Iowa	1,471,950	1,631,150	1,633,650
Kansas	1,309,410	1,461,650	1,466,200
Kentucky	1,784,070	1,977,900	1,967,200
Louisiana	1,781,820	1,998,400	2,011,050
Maine	1,094,040	1,235,700	1,244,400
Maryland	1,436,715	1,593,900	1,579,600
Massachusetts	1,911,510	2,123,850	2,113,200
Michigan	2,627,325	2,932,300	2,939,550
Minnesota	1,624,545	1,799,400	1,793,100
Mississippi	1,907,010	2,102,400	2,095,650
Missouri	1,796,220	1,995,100	1,993,800
Montana	941,040	1,080,150	1,086,850
Nebraska	1,117,620	1,235,850	1,237,850
Nevada	642,060	702,400	696,450
New Hampshire	934,785	1,026,900	1,030,600
New Jersey	2,102,175	2,338,600	2,333,100
New Mexico	1,105,335	1,243,550	1,280,500
New York	4,731,930	5,255,250	5,263,600
North Carolina	2,163,960	2,388,850	2,373,800
North Dakota	1,089,180	1,267,600	1,161,700
Ohio	3,089,250	3,437,850	3,454,200
Oklahoma	1,442,430	1,609,550	1,625,600
Oregon	1,152,585	1,282,900	1,300,900
Pennsylvania	3,507,255	3,908,250	3,914,200
Rhode Island	938,160	1,046,950	1,046,150
South Carolina	1,759,590	1,945,000	1,922,400
South Dakota	1,095,570	1,205,150	1,150,650
Tennessee	1,920,555	2,129,250	2,117,650
Texas	3,191,355	3,549,900	3,572,550
Utah	1,062,990	1,169,750	1,173,000
Vermont	963,990	1,063,900	1,055,350
Virginia	1,852,920	2,051,950	2,050,150
Washington	1,399,365	1,553,400	1,558,500
West Virginia	1,412,100	1,580,450	1,571,050
Wisconsin	1,719,000	1,911,050	1,919,800
Wyoming	775,080	877,300	925,450
Guam	1,384,380	1,521,700	1,514,950
Puerto Rico	1,949,445	2,149,550	2,142,800
Virgin Islands	1,375,740	1,512,100	1,505,350
Total	90,000,000	[1] 100,000,000	[1] 100,000,000

[1] $90,000,000 appropriation to be allocated on basis of $100,000,000.

HIGHLIGHTS OF PROGRESS IN THE ENVIRONMENTAL HEALTH SCIENCES

Mr. FOGARTY. Since this is the last item in the environmental health group, we will place the statement on highlights in environmental health sciences in the record at this point.

(The statement referred to follows:)

ENVIRONMENTAL HEALTH SCIENCES

Working Subcommittee on Pesticide Monitoring.—This Subcommittee to the Federal Pest Control Review Board was established to implement a recommendation by the President's Science Advisory Committee to coordinate among Federal agencies the environmental monitoring of pesticides. The Subcommittee discusses mutual areas of interest in monitoring, exchanges information and data, assists in standardization of methods for pesticide assay, provides uniformity in reporting data, and serves as an editorial body in the publication of periodic progress reports. The agencies represented are the Department of Interior (Geological Survey and Fish and Wildlife Service), the Department of Defense, the Department of Agriculture (Forest Service and Agricultural Research Service), and the Department of Health, Education, and Welfare (Food and Drug Administration and Public Health Service).

Grants automatic data processing system.—The Bureau's research and training grant programs have been automated for the processing, storage, and retrieval of information on a current basis. The system is being made compatible with others, such as Medlars and Science Information Exchange, so that interchange of data will be possible as the system is expanded. The system will improve communication among scientists and will facilitate the work of review and advisory committees by providing them with up-to-date information on all environmental health grants proposed and being supported.

The National Advisory Environmental Health Committee.—This group was established in 1963 to advise and assist the Surgeon General in the broad areas of environmental health, and to make recommendations concerning research and training grant applications in environmental health. Committee membership is national and multidisciplinary in scope and its recommendations will have an important impact on future developments in environmental health.

Research grants.—Grants have been awarded in important areas of research during the first few months of this newly authorized program. Investigations have been supported and are underway in pesticides, basic toxicology, pharmacology, and biochemistry.

Environmental Sciences Training Committee.—This Committee was established in 1963 to render advice and guidance on the training of scientific personnel for work in environmental health. It also conducts the scientific review and evaluation of research training grant applications in environmental health sciences.

Arctic Health Research Center.—Clinical evaluation of 19 Eskimos suspected of having diabetes revealed 1 case of typical diabetes mellitus and 17 cases of abnormal glucose tolerance. The 19th individual was found to have normal glucose tolerance although she had previously shown abnormal glucose metabolism during pregnancy. These findings confirm earlier impressions: (1) that diabetes mellitus is rare among Eskimos; (2) that a significant number of Eskimos have abnormal glucose tolerance without the associated degenerative changes of diabetes. Laboratory studies of the 17 individuals are being continued in an effort to determine the cause of the unusual glucose metabolism.

Important new information has been obtained concerning echinococcus infections in humans. Clinical followup of an Eskimo patient who had previously had a hemihepatectomy, showed recurrence of hydatid disease with extensive hepatic involvement from residual infection with *E. multilocularis*. Diagnosis of recurring alveolar hydatid disease with fatal results was confirmed by autopsy. Field trials of new measles vaccines in Alaskan villages show that although clinical measles produces much more severe reactions among Eskimos and Aleuts, the vaccines can be successfully used without severe reactions. Duration of immunity to the various vaccines is being followed to determine their effectiveness in the absence of natural challenge by wild measles. The Alaskan studies will provide information important for future vaccination programs in other States where wide use of vaccine will reduce exposure to natural measles, eventually creating a situation which is already present in Alaska.

Continued investigation of oxidation ponds as a means of disposing of human waste in northern areas is providing valuable information. Of particular interest is the discovery that the alga *Scenesdesmus* specie continued to proliferate in one study pond even though the ice cover was over 21 inches thick and the oxygen content of the remaining water had been reduced to zero. This pond has functioned sucessfully even when loaded at twice the standard loading rate. On the basis of successful demonstrations of the oxidation pond methods, the AHRC is receiving numerous requests to prepare design criteria for ponds to be installed in communities throughout the State.

Studies of hearing loss among Eskimos revealed that chronic otitis media is the major cause of severe hearing loss (up to 15 percent among schoolchildren). Data show that illness starts before age 1 and tends to become chronic; children who do not experience draining ears by age 1 or 2 are unlikely to have ear pathology later in life.

Studies of arbovirus diseases were initiated. Field trials of various methods of trapping insects showed that standard devices must be modified for effective use in Alaska. Light traps widely used elsewhere, proved ineffectual in the long Alaska summer days until the lights were replaced by other attractants, such as CO_2 and heat. A method for utilizing sentinel suckling mice in traps was developed. Six strains of arboviruses have been passaged in laboratory mice and pooled suspensions were prepared for hemagglutinating antigen.

Analysis of data on infant feeding practices among Alaskan Eskimos and Indians revealed lack of vitamins and iron in diets of many infants. Widespread adoption of bottle feeding methods using diluted canned milk without adequate supplementation is a major cause of dietary deficiences among these infants. A paper on infant feeding practices was presented at a symposium during the 1963 meeting of the American Association for the Advancement of Science.

Further knowledge regarding the development of cystic hydatid disease in animals has also been gained through experimental infection and observation of captive reindeer. Information on the rate of growth and physical nature of larvae of *E. granulosus* in lung tissue is now available.

The discovery of three cases of methemoglobinemia due to enzyme deficiency in Navajos brings to three the number of North American races in which this rare condition is relatively frequent. The disease was previously discovered in Eskimos and Athabaskan Indians in Alaska.

A 2-year study of infant morbidity and mortality in 27 Eskimo and Indian villages has shown that the infant death rate in these villages is over four times the average rate for the United States (121.1 per 1,000 live births in Alaskan villages as compared to 26 per 1,000 in the United States). Of greatest significance is the contrast in mortality rates during the 2d through the 12th month of infancy when preventable diseases are the chief cause of death (Alaska 65.2; United States 7).

Study of algae of the genus Epipyxis, recently revised by AHRC investigators, demonstrates that these algae show considerable promise as indicators of low levels of organic pollution in natural bodies of water.

Establishment and staffing of a serology laboratory has increased AHRC capabilities for study of epidemic and endemic disease. AHRC serologists have developed new methods for greatly increasing sensitivity of measles hemagglutination tests which will be useful in determining significance of low titers following vaccination or natural infection.

A system for removal of excessive color from drinking water has been developed and is operating satisfactorily at the Kotzebue Air Force site. Excessive color is a common problem in surface waters, which are often the sole source of domestic supply in tundra areas, with the color content frequently exceeding 100 cobalt units. (USPHS recommended standard for color is 15 cobalt units.)

Surveillance of respiratory illness during winter of 1963 revealed extensive outbreaks of Asian influenza in Eskimo and Indian communities. By contrast, parainfluenza virus type I was predominant in Anchorage, causing what appeared to be the first reported outbreak of this infection among high school students.

An island epidemic of rubella (German measles) was intensively studied epidemiologically and in the laboratory. Valuable information concerning inapparent attack rates, duration of virus shedding, and infectiousness was secured.

Polio II virus was grown for the first time in adult lemmings, thus expanding the number of susceptible laboratory animals available for investigative work.

Tissue cultures were grown successfully for the first time from kidneys of two species of arctic seals and one species of antarctic seals, giving promise of a new, inexpensive, and almost unlimited source of tissue for laboratory use.

AIR POLLUTION

Highlights of progress on the air pollution problem during 1963 include the following:

Clean Air Act.—On December 17, 1963, President Johnson signed into law the Clean Air Act (Public Law 88–206) which replaces previous Federal legislation in the air pollution field and lays the groundwork for the creation of a comprehensive national program for the prevention and control of air pollution. The principal provisions of the act authorize the Department of Health, Education, and Welfare to: (1) initiate and support an expanded national program of research and development in the field of air pollution control; (2) award grants-in-aid to help local, State, and regional air pollution control agencies to initiate, expand, or improve their programs; and (3) take action to secure the abatement of specific air pollution problems that are endangering the public health or welfare.

Oxides of sulfur studies.—A comprehensive research effort in the serious and growing problem of air pollution associated with oxides of sulfur from the combustion of all types of fuels was initiated. The activity includes evaluation of known methods of fuel desulfurization.

Cooperative agreement—PHS and Manufacturing Chemists Association.—The cooperative study will provide representative air pollutant emissions data from various mineral and manufacturing processes.

Engine modification studies.—An evaluation of the Chrysler "clean air package" and a transistorized ignition system was initiated. An evaluation of the efficiency of the "fuel injection system" for reducing emissions as compared to the conventional carburetor also was initiated.

CAMP air quality data compared to mortality data.—Plans are being developed to compare mortality data with continuous air monitoring station air quality data.

Air pollution aspects of the iron and steel industry.—A report dealing with the air pollution aspects of the iron and steel industry, which was based on information collected from published literature and elsewhere, was published.

Gasoline recovery economics.—A project designed to investigate the economic aspects of recovering vapor emissions from the handling and storage of gasoline was initiated. If it is economically feasible to carry out gasoline vapor recovery activities, impetus will be given to the establishment of vapor controls.

Long-term assistance to Indiana.—At the request of the Indiana State Board of Health, an engineer was assigned to assist in the development of an air pollution program.

Cooperative agreement—PHS-Cook County.—Together with the Air Pollution Control Bureau of the Cook County Building Department and the Illinois Department of Public Health, the Public Health Service, Division of Air Pollution has entered into a cooperative agreement for development of an air resources management plan.

Mobile laboratory.—Air pollution studies using the mobile air sampling laboratory have been completed in Pittsburgh. Arrangements have been made to conduct studies in the Indianapolis, New York, Boston, and Baltimore areas.

Training.—Air pollution training, conducted 19 courses during 1963. Subject range included sampling, identification, and analysis of air pollution and control of source emissions.

Training grant.—A 3-year $238,000 training grant was awarded for biometeorological training. The grant to 11 universities was made through the University of Illinois.

World Health Organization.—Members of the Division of Air Pollution participated in the Symposium on Air Quality Criteria and the Expert Committee on Air Pollution sponsored by WHO in 1963. These meetings highlighted the fact that air pollution is a worldwide problem, and did much to further international understanding and cooperation in the search for adequate control measures.

Economic aspects of air pollution.—A study of the economical aspects of air pollution, which will require the development of a mathematical model, is being conducted by Washington University of St. Louis under a contract with the Public Health Service.

Effects of air pollutants.—Dr. Frances L. Estes, Department of Surgery, University of Texas, has concentrated on the effects of air pollutants at the cellular level and within cells on the living catalyst systems, the enzymes. Her work has given evidence that pollutants attack these enzymes at a particular chemical grouping called the sulfhydryl group. Dr. Brian Mudd, University of California, Riverside, using an entirely different approach, has also found evidence of the importance of sulfhydryl groups in the effects caused by air pollutants.

Environmental Engineering and Sanitation

HIGHLIGHTS

Research grants

In 1963, research grants supported 203 awards to investigators in universities and other nonprofit institutions for study of problems associated with environmental engineering and food protection.

Solid wastes.—(1) A grant supported a conference to consolidate present solid waste information and to delineate research needs. (2) One investigator has reported on studies aimed at maximizing refuse disposal capacity of landfill sites. By regulating the moisture content, he has shown that inplace density may be increased by 35 percent if an 18-foot lift is used in lieu of the conventional 4-foot lift. The project is being continued with the aim of studying the live load effect on compacton within the sanitary landfill. (3) Another worker in this field has been concerned with the possibility of conversion of municipal refuse into usable material. He has shown that such refuse can produce a compost capable of supporting good mushroom growth with potentials for both human and animal usage. He also reports development of small-scale composter which is capable of producing a satisfactory compost in about 8 days. (4) Another project is designed to provide information on the feasibility of recovering combustible gases from refuse incineration which might be used for boiler firing and thereby reduce the cost of incineration. If feasible, such a procedure would also provide for more complete combustion of refuse and reduce the amount of waste material discharged to the atmosphere.

Food protection.—(1) One investigator, attacking the difficult problem of detecting staphylococcus enterotoxin in foods, reported that type B enterotoxin can be extracted from food slurries by flotation with a rhodamine labeled antiserum and an anionic wetting agent. (2) Another investigator is concerned with the problem of aflotoxin which has recently come into focus. This toxin is produced in foods by fungi, and the investigator proposes to determine the range of species which have this capability, the environmental conditions which influence toxin production, and, if possible, to extract and concentrate the toxins in sufficient quantity to evaluate effects on higher animals. A grant has also been awarded to support a symposium on this subject to permit communication of the present status of knowledge to interested investigators. (3) A group in Japan studying a neurological disorder uncovered evidence which suggested contaminated shellfish to be the cause. Recent reports have confirmed that oysters in that area are capable of concentrating mercury from industrial wastes, and that the mercury compound was the cause of the disease. (4) An investigator, following the fundamental approach of endeavoring to uncover metabolic pathways essential for the growth of *Clostridium botulinum*, reports that a degradation product of the citrulline derived from the amino acid arginine is essential to sporulation. Such work may lead to new and better control methods for this hazardous organism.

Pesticides.—(1) An investigator working on the mechanism of conversion of Aldrin to Dieldrin in the soil, reports success in blocking the action by use of certain chemicals. In the course of this work he also isolated and identified a naturally occurring insecticidal substance in the edible portion of parsnips. This compound, "Myristicin," has synergistic properties which enhance insecticidal powers of some other compounds. (2) A grant to the World Health Organization has enabled them to carry on a worldwide program of surveillance of insect resistance to insecticides. It also permits coordinated studies on the effectiveness of substitute compounds and dissemination of information on the toxicological hazards involved in their use.

Special engineering services

The use of travel trailers for vacationing and camping is currently one of the fastest growing recreational pastimes in the United States. Equipped with sewage holding tanks, investigations across the country in 1963 showed the need to encourage the installation of sanitary disposal stations to prevent indiscriminate dumping of such wastes. Our continuing efforts in cooperation with the industry resulted in the installation of approximately 300 such disposal facilities at gasoline service stations and in Federal and State parks by the end of 1963.

Tabulations becoming available in 1963 of the 1960 Census of Housing revealed that there are upwards of 15 million private septic tank disposal systems serving family dwellings. The pamphlet "Septic Tank Care," which emphasizes that proper maintenance is necessary to reduce operational problems and health hazards, was revised and is still among the top 10 GPO sellers.

Criteria and standards applicable to all environmental health aspects of recreation areas are inadequate at the present time. Also, the newly created Bureau of Outdoor Recreation in the Department of Interior is developing a national policy on recreation which will include consideration of the public health aspects. A new manual, "Environmental Health Practice in Recreation Areas," is being developed and will contain information on health problems and guidelines not currently available in a single publication.

A paper outlining recent PHS grant-supported solid wastes research conducted in the United States was delivered at the 65th Annual Conference of the Institute of Public Cleansing held in Southport, England.

A detailed report was prepared for the Puerto Rico Department of Health studying a proposed plan by the city of San Juan to dispose of its refuse at sea.

Supplement E (1960–61) on "Refuse Collection and Disposal—An Annotated Bibliography" was prepared for printing and the International Research Group on Refuse Disposal Bulletins Nos. 13 and 14 were translated into English and printed for distribution in English-speaking countries.

In 1963, the Divisions of Environmental Engineering and Food Protection and Accident Prevention, with the cooperation of the National Research Council, established an office to which emergency type calls can be placed by those needing advice on toxic properties of chemical agents in water supplies. Calls may be made by telephone or telegraph, day or night, by any community. Since its inception on April 30, 1963, the emergency service has been utilized to furnish information on pesticides and organic chemicals in water supplies.

Shellfish sanitation

A total of 1,219 interstate shellfish shippers in the United States, Canada, and Japan were certified as complying with the established sanitary standards of the Cooperative State-PHS-industry program for the certification of interstate shellfish shippers. Over 4,000 copies of lists of State certified shellfish shippers were distributed bimonthly to interested State, Federal, and industry personnel in the 50 States, Canada, and Japan. State shellfish sanitation control programs were evaluated in accordance with the new tentative part III appraisal manual of the cooperative program. Valuable experience was gained both by State and Federal shellfish sanitation personnel in application in program evaluation. Visits for program review were made to production areas in Canada and Japan in accordance with the provisions of the Canadian and Japanese shellfish sanitation agreements.

Dedication was held August 3, 1963, for the Gulf Coast Shellfish Sanitation Research Center, Dauphin Island, Ala. The Northeast Shellfish Sanitation Research Center, Kingston, R.I., will be dedicated during the spring of 1964. The centers contain laboratories that are equipped for work in chemistry, bacteriology, virology, and a variety of marine sciences.

At the request of the Congressional Intergovernmental Relations Subcommittee of the Committee on Government Operations, assistance was provided in compiling a report on seafood for inclusion in the 17th report by the Committee on Government. The report has been published as House Report No. 921, entitled, "Consumer Protection Activities of State Governments, Part 2—The Regulation of Foods and Related Products."

Under the provision of the United States-Japanese shellfish sanitation agreement, a sanitary engineer was assigned (on reimbursable detail) to Hiroshima Prefecture for 90 days, until the end of the 1962–63 oyster packing season. He provided technical assistance on shellfish program reviews and in checking ratings of certified Japanese shellfish shippers. This is in cooperation with Department of State and other Federal authorities to provide assistance to nations interested in a cooperative development program. Other nations, including western Samoa, Korea, Austria, and Mexico, have shown continued interest in the possible development of a shellfish certification agreement with the United States for the purpose of marketing their shellfish in this country.

Environmental health planning for metropolitan areas

Environmental health planning conferences, seminars, and training programs have been conducted in California, Colorado, Kentucky, North Carolina, Ohio, Pennsylvania, and Texas. Environmental health studies have been completed in three communities in Colorado, California, and Tennessee; and one study in Seattle-King County, Wash., is in its final stage. These studies will provide a guide so that these communities can plan for their future growth in an economical and logical manner.

Enthusiasm was displayed throughout the country for Dr. Cornelis de Cler, noted town planning consultant, from The Hague, Netherlands. His itinerary was planned and conducted by this program under the auspices of the World Health Organization and the Division of International Health.

Interstate carrier sanitation

Sodium in the diet of a person suffering from congestive heart disease is a very critical factor. Such persons, of whom there are over 1,500,000 in the United States, must consider sodium intake from every source; a most important one being drinking water. One individual may ingest from his water supply alone more sodium than his heart can tolerate. Recognizing that this is a problem of national significance, the Divisions of Environmental Engineering and Food Protection and Chronic Diseases mounted a massive attack on it in 1963. The 50 States and over 2,500 communities are cooperating in collecting and analyzing for sodium samples from the public water supplies of these cities. The sodium determinations are being made by the Service. There are four objectives: (1) to determine the levels of sodium in drinking waters and to map the country in terms of sodium isobars; (2) to make information about sodium levels in specific drinking water supplies available to physicians caring for patients on sodium restricted diets; (3) to create a national awareness of the sodium problems and to encourage the States to deal with it by continually determining sodium levels; and (4) develop more reliable techniques for measuring sodium in water.

Sixty-three supervisory employees responsible for food served on dining cars of 22 railroad companies attended a course on railroad sanitary food service. This course was presented at the request of the Association of American Railroad Dining Car Officers. Five regional offices presented similar courses for food service personnel from railroad and vessel operating companies.

Forty-eight steamship lines and 11 railroad companies received special recognition for maintaining consistently high standards in sanitation on their vessels and dining cars. Recognition was in the form of special citations given to companies operating six or more conveyances and letters of commendation given to those operating five or less. In many cases the awards were made by high officials of the Public Health Service to a president or vice president of the company at a special ceremony.

At the request of the Conference of State Sanitary Engineers, a limited study was conducted of the needs for a certification program for crabmeat packing plants and processors of scallops, similar to the cooperative program for the certification of interstate shellfish shippers. The study indicated there was not sufficient public health reason for such a program at the present time, inasmuch as the individual producing States appeared to have adequate sanitary control programs for these marine foods.

A floating shellfish surveillance station was established in southeast Alaskan waters to study the uptake and retention of toxicity by oysters, clams, and mussels. The scope of research is being conducted in conjunction with a contract developed with University of Washington. This is a special project on ecology of paralytic shellfish toxicity within that geographical area.

Milk and food sanitation

Technical assistance was given to all States and to industry on interpretation and application of PHS ordinances and codes, planning and administration of milk and food programs, sanitary design of milk and food equipment, and training of State and local health officials. More than 175 seminars and training courses on milk and food sanitation attended by over 8,500 individuals were sponsored or participated in by PHS milk and food personnel.

Participation by States in the cooperative State-PHS program for the certification of interstate milk shippers increased for the 12th consecutive year. The January 1964 list of milk shippers contains the names of 979 sources in 44 States, including the District of Columbia.

During 1963, 250 check ratings in 30 States were made in order to validate the sanitation compliance ratings submitted by the States. In addition, 55 State milk sanitation rating officers in 28 States were standardized and certified. and a total of 23 State milk laboratories reviewed. Currently there are 146 certified State milk sanitation rating officers representing every State except Alaska.

The "Food Service Sanitation Ordinance and Code," part V of the 1962 "PHS Food Service Sanitation Manual," is under study by State and local health authorities as the basis for updating food protection programs. Through 1963, 6 States and 22 local health jurisdictions adopted these recommendations affecting a population of more than 11 million persons.

In 1963, studies on the heat penetration into foam from milk products were completed in model systems at the milk pilot plant and virology laboratory. The results indicated that substantial temperature lags occurred when foam was heated. Verification of the results from model systems will be initiated with full-scale equipment.

Cooperative work with the Food Research Institute, University of Chicago, and the Division of Microbiology, FDA, resulted in the development of a quantitative test for staphylococcal enterotoxin B in food. Substantial progress has also been made toward the development of a similar test for enterotoxin A.

IV. Occupational Health

Coal mine study.—A study was begun in January 1963 to determine the extent of chronic pulmonary disease among coal workers, its causes, its relationship to the working and living environment, the course of the disease, and its social impact. Mobile field teams, operating from Beckley, W. Va., have given medical examinations to 1,300 active and inactive miners, of a total of 3,000 to be included in the study. Laboratory studies are exploring the relative importance of such agents as carbon, silica, and infectious processes in pneumoconiosis, and special research projects are being carried out at hospitals and universities in the coal-producing area. Community studies, consisting of household interviews, as well as medical examination of a sample group, are being made to isolate the effect of the work environment from that of the total environment. Studies of environmental conditions in the mines will begin in 1964. In addition to West Virginia, the study will cover other States in the Appalachian region.

Metal mine study.—The report of this study, made in collaboration with the Bureau of Mines at the request of Congress, is now being printed. The study covered 67 mining companies in 14 Western States and included physical examination of 14,959 miners. The findings indicate that considerable progress has been made in the industry in preventing silicosis. The prevalence rate of 3.4 percent is substantially lower than the rates encountered in previous surveys, and almost 70 percent of the cases were found among workers whose work history began prior to 1935. Incidence of the disease among miners who began work after 1935, and excessive dust exposures found in some of the mines, indicate, however, that effective dust control has not been universally practiced. The report concludes that combined medical and environmental surveillance and control can prevent the development of clinically significant silicosis among miners and includes specific recommendations for control measures.

Uranium mine study.—A study of uranium mines and miners has been underway in the Colorado Plateau for 14 years. Recent analysis of mortality experience has confirmed and strengthened earlier indications of excessive lung cancer mortality among uranium miners. A preliminary analysis of exposure records suggests that lung cancer incidence among the miners is directly related to degree of exposure. Clinical examinations, sputum cytology, and followups of miners are continuing. Special studies of mine environments and their modification. and radiobiologic studies, are directed toward the major problems of inhalation, retention, distribution, carcinogenic effects of radioactive dust, and the importance of such possible cofactors as tobacco, silica, and diesel exhaust.

Heat study.—As part of a study to determine the effects of thermal stress in hot industries and to establish standards for evaluation of industrial conditions. arrangements were made with three plants in the South for on-site evaluation of workers' physiological reactions to the hot work environment. Tests were made during the summer of 1963, and will be repeated in the winter and the following summer.

Noise studies.—A study completed during the past year produced new understanding of the effect upon hearing of broad-band noise with pronounced single-frequency components as contrasted with equally intense noise with a more uniform spectrum. The results suggest that the more stringent limits for narrow-band noise need only be applied when unusually large amounts of the total sound energy are at single frequencies in the noise spectrum. Analysis continued of data collected in experiments with the effects of noise on learning and performance. Studies at Los Angeles and Honolulu International Airports revealed potentially harmful noise exposures and resulted in control recommendations.

Evaluation of international standards.—During the year, Public Health Service officials met with representatives of the National Coal Board and Medical Research Council of the United Kingdom to review the International Labor Organization's standards for classifying X-ray findings for dust diseases of the lungs. Modifications of the standards were tentatively agreed upon and are being tested by the two groups. Proposals for modification of the standards will be made to the ILO to permit more uniform evaluation of X-rays internationally and a broader application of research data.

Toxicological research.—Evaluation of toxicity of new materials and studies of the mechanism of toxic action continued. Preliminary notice of the toxic potential of a new type of beryllium ore has been sent to the American Mining Congress, and experiments with the effect of the ore on laboratory animals continue. Exploration of possible pharmacological protection against action of various toxic agents is producing interesting results, as are "biochemical profile" studies, designed to determine early effects of toxic exposure through detection of changes in blood enzymes and other substances.

Training.—In 1963 the Division of Occupational Health presented 24 courses to a total of 500 students. It is expected that participants in 1964 will approximate 1,000. Basic courses such as industrial hygiene chemistry and industrial hygiene engineering continue to be oversubscribed. Special courses for advanced technical work or specialized areas attracted much interest, and applications were received even from foreign countries. All are short-term courses not given elsewhere and supplement long-term training provided by universities.

Consultative and technical assistance.—Over 200 contacts were made during the year to provide consultative service, about one-third as a result of requests for assistance in solving special problems. They included dermatological and industrial hygiene surveys and analytic services in cases of suspected occupational health hazards, as well as studies and consultation dealing with administrative and informational aspects of occuptional health programs.

Research grants.—In 1963 the research efforts of the inservice laboratories and experts were supplemented by the award of 65 research grants to universities and other public and private nonprofit organizations. These included projects dealing with the fundamental toxicologic mechanisms and early detection of toxic effects in industry; a systematic study of animal behavioral tests as sensitive indicators of toxicity; studies of occupational pulmonary disease ranging from laboratory work with specific gases such as phosgene and nitrogen dioxide to clinical studies of flax workers, coal miners, and individuals exposed to rubber dust; three grants dealing with pulmonary disease of farmers, such as those resulting from the inhalation of silage gas; investigation of dermatitis caused by new chemicals; six projects directed toward the effects of noise on hearing; and a study to develop fundamental knowledge of the physiologic and pathologic effects of vibrating machines and tools on the body; a study on the hazards associated with optical masers; and two studies relating to the consequence of heat stress.

HIGHLIGHTS OF PROGRESS IN ENVIRONMENTAL HEALTH

DIVISION OF RADIOLOGICAL HEALTH

Measurement and surveillance

During the summer of 1963 a field trial was conducted in Berks County, Pa., to determine the feasibility of proposed methods and procedures for obtaining information about the X-ray experience of the U.S. population. The field trial was a success inasmuch as the proposed methods and procedures were found to be adequate.

Based upon the successful field trial in Berks County the Division of Radiological Health and the National Health Survey of the Public Health Service will jointly conduct a series of national X-ray studies. These studies will attempt to assess the present situation regarding medical and dental X-ray exposure of the U.S. population. The information obtained will be used to help the medical and dental professions make more efficient use of X-ray equipment. This endeavor is part of the long-range effort of the Public Health Service toward elimination of unnecessary radiation exposure from the healing arts without loss of the diagnostic or therapeutic benefits which X-rays provide.

The data collection phase of the current study will begin in April 1964 with a household interview survey in which X-ray visit information will be obtained for the preceding 3-month period. The survey will cover approximately 10,000 households and 32,000 persons. From May through September 1964 followup questionnaires and film packs, designed to provide the required exposure information, will be mailed to practitioners or facilities identified in the household interview survey. It is estimated that approximately 6,000 X-ray facilities will be involved during this period.

A quality control program was further developed by the Division to assure that analytical data generated by Division laboratories and by laboratories under Division contract are within acceptable limits of accuracy. This program consists of the distribution and analysis of specially prepared samples to the Division laboratories and subsequent appraisal of results. Interagency assistance involves distribution of calibration sources to State and local laboratories on request; for example, in December 38 nuclide preparations were distributed to 8 State health departments.

The institutional total diet sampling program is being expanded from 20 to 50 institutional sampling stations—1 station in each State. Through this program total diet samples of the juvenile inhabitants of these institutions are collected for 1 week in every 4 and sent to Division laboratories for analysis of the radionuclide content. The results give information on the radionuclide exposure to individuals through ingestion. The sampling stations are selected in close proximity to the pasteurized milk sampling stations and at institutions that have a relatively static population of representative, normal healthy children of both sexes from 6 to 16 years old.

In addition to the institutional program similar food consumption and analysis surveys are conducted in cooperation with Consumers Union and the National Health Survey to assess dietary intake of radionuclides by the U.S. population. Smaller food studies are conducted on the basis of local conditions; for example, the radionuclide content of Alaskan reindeer and caribou is being investigated because these animals constitute an important part of the Arctic food chain.

To gain information on the internal radionuclide content of humans various organs are being analyzed or measured. Included are in vivo measurements of the I^{131} content of the thyroid gland, preliminary investigations and development of methodology for sampling and analyzing human hair for Sr^{90}, and studies of human bones, collected through the cooperation of pathologists and analyzed by division laboratories for Sr^{90}. Approximately 900 bone samples have been collected.

The division has set up a unit for providing to State health agencies an evaluation of the potential public health effects of proposed nuclear facilities. These reports are being provided to other Federal agencies on request.

Effects of radiation on man

Support of the investigation relative to the possible relationship between external low-level environmental radiation and the occurrence of congenital malformations was broadened to develop acceptable instrumentation and techniques for measuring extremely small differences in external background radiation. This investigation of the occurrence of congenital malformations in selected urban areas in three States is being carried out in cooperation with the University of Minnesota and the State health departments of Colorado, Michigan, and Minnesota. A list of relative frequency of occurrence of malformations among all live births for 3 to 5 years for each area, and each urban place has been prepared for each State. Measurement of external background radiation has proceeded through the pilot phase in Michigan, and the remaining urban areas will be surveyed and listed by order of intensity of integrated radiation occurrence. These two lists will then be compared to determine if a statistically significant correlation exists.

The initial phase of the cooperative study between the Public Health Service and the AEC–Argonne National Laboratory of populations exposed to elevated levels of radium 226 in ground water in midwestern communities in two States has been completed. The data from this phase were used to evaluate the problems of mounting a full-scale investigation and resulted in limitation of the study to the States of Iowa and Illinois. Collection and verification of morbidity and mortality data associated with osteogenic sarcoma, place of residence, average radium 226 content in the domestic water supply, and radium 226 body burden as measured in tooth and bone specimens from the population are the primary determinants for the study. From these relationships additional information will be developed concerning possible radiation dose effects from chronic ingestion of environmental radium in a soluble form in water.

The cooperative thyrotoxicosis therapy followup study investigating the latent effects of treatment of thyroid malfunctions with radioiodine is continuing according to schedule. Investigators are now actively engaged in the followup phase of the study involving approximately 40,000 patients and participation of 30 different medical institutions in the United States and Great Britain. Preliminary data available in 1964 will be evaluated by the advisory committee for the study.

The establishment of a collaborative animal research facility with Colorado State University has progressed to the point where the laboratory building has been completed and investigation of chemical and radioactive constituents of the standardized animal diet has proceeded during 1964. Exploratory studies on age sensitivity aspects of radiation have continued at Southeastern Radiological Health Laboratory for translation to the Colorado animal colony when sufficient animals become available during 1965. The investigations are closely linked with the sensitivity studies of in utero effects of radiation carried on at the Montgomery Laboratory. Comparative biological response studies have also been initiated at the Southeastern Radiological Health Laboratory to determine basic response relationships between iodine 131 dose to the thyroid and X-ray-induced changes to the same tissue. These studies are expected to result in data for use in standards development for iodine 131 intake by the human population.

The X-ray pelvimetry study currently in progress under contract between the Public Health Service and the Johns Hopkins University has accomplished the abstracting of 15,000 hospital records for children exposed to X-ray while in utero and 26,000 records of children not exposed. Of these children 83 percent have been located and complete information as to development of leukemia and other malignancies has been obtained. It is expected that the findings of this investigation will be reported during 1965 after extensive analysis of the recorded data.

Development of methodology for exposure reduction and control

A project undertaken in cooperation with the Atomic Energy Commission and the U.S. Department of Agriculture starting in 1960 developed a successful method for removal of radionuclides from milk using a fixed bed ion exchange system. Investigations are now underway into methods for increasing operating efficiencies through the use of continuous contractor systems. A contract for construction of a pilot plant continuous system has been negotiated and evaluation of the effectiveness of this modification of the fixed-bed system will be carried out at the Southeastern Radiological Health Laboratory.

The contract for construction and operation of a commercial scale fixed-bed ion exchange system for removal of radiostrontium from milk has resulted in the installation and preliminary shakedown operation of the plant in a commercial dairy during 1964. It is expected that results of this development will be available for the dairy industry and public health agencies during 1965.

As a result of the successful demonstration of reduction of radionuclides in milk through pasture and feeding control for dairy animals, further investigations were directed toward an understanding of the mechanisms which affect this reduction. In an effort to enhance these effects studies were done on such factors as soil ingestion by the animal during grazing, addition of chemicals such as potassium to pasture soils, organic composition of soils, effects of plowing, and rate of growth of grasses on these pastures. Investigations are also being supported relative to effects of natural and manufactured chelates on limiting availability of radionuclides to the animal from feed through the addition of these binding agents to the dietary supplements. Preliminary success with these materials in the laboratory have resulted in extension of the techniques to herd-sized studies.

Technical assistance

Under the dental X-ray program 25 States have completed surpak surveys, and 10 States have completed physical surveys of dental X-ray installations. A total of 53,500 surpaks and 61,300 filters and collimators have so far been distributed under this program. A medical X-ray surpak, similar to the dental surpak, has been developed and field tested. It is anticipated that routine distribution will begin in 1964. A medical demonstration team has been established to show State health personnel various acceptable techniques for surveying X-ray installations.

The radiation surveillance network monthly report, "Tabulation of Findings," has been completely revised to adapt it for electronic data processing.

Six States have assumed regulatory responsibility from the AEC for the licensing and control of byproduct radioactive materials. Eighteen other States introduced legislation in 1963 authorizing them to enter into similar agreements with the AEC. A cooperative agreement was entered into with the Georgia State Health Department to conduct a study of the extent of the health hazards involved in the use of radium in the State of Georgia.

A cooperative agreement has been signed with the California State Health Department to evaluate the extent of environmental contamination resulting from fallout during 1963, and to evaluate possible modifications in farming practices which might reduce the potential or actual health hazard.

By the end of 1963 all 50 States, plus Puerto Rico and the Virgin Islands, were participating in the formula grants program. Of the $1,500,000 allocated in fiscal year 1963, total payments of $1,394,000 were made to the States and territories of which $1,229,000, or 81.9 percent of the total allocation, was actually spent or obligated.

The third annual inventory of State radiological health programs was completed by the regional program directors during 1963. Among other things this inventory showed that as of August 30, 1963, 44 States and the District of Columbia have taken steps to meet their responsibilities in radiation control by either specific legislation or by radiation control regulations promulgated under previously held authority of the Department of Health.

Training

The training program provides short-term training courses in radiological health for personnel in Federal, State, and local health agencies. During 1964 an estimated 130 course-weeks are scheduled and will provide 1,600 trainees with the variety of 15 general and technical subject areas. As emphasis is being placed on reaching as many agencies as possible, 40 course-weeks of such training have been scheduled for field locations including all regional laboratories.

The program of training grants to institutions is continuing its aim in developing graduate degree curriculums through establishing or extending courses for the training of professional radiological health specialists. During 1964 the grant program is being expanded to provide grant support for undergraduate programs in radiation technology. This is being done in response to increasing demands by State and local governments for technicians to assist and relieve the specialists who now must frequently carry out the more routine day-to-day functions. By June 1964 it is expected that there will be 42 institutions participating in the training grants program with a total technical and specialist training enrollment of approximately 225.

Twenty-five commissioned officers within the Division of Radiological Health are presently assigned to full-time, long-term graduate training in radiological health programs at selected universities. Also some 61 commissioned officers and civil service personnel of the Division are engaged in extracurricular part-time studies. These assignments and studies are continually increasing the level of competency among the Division of Radiological Health staff.

The audiovisual and training publications support programs are constantly increasing their productivity in order to keep abreast of the Division's needs. The distribution of the training aids library which includes films, slides, charts, black and white and colored photographs is being made available on the international level, as well as to regional consultants, field laboratories, and State agencies. The publication program, responsible for the editing of course material, the development of course manuals, and the stocking and distribution of training publications, has been centralized for better distribution control and to accelerate the production of printed material.

Research grants

In 1964 the research grants staff further encouraged studies in the epidemiology field. A good example of this is the study of survivorship and mortality of radiologists. This study being conducted at the Johns Hopkins University is designed to determine the age-specific and cause-specific mortality rates of groups of physicians with varying occupational exposure of ionizing radiation, in order to assess the possible life-shortening effects of such exposure and the possible specific effects on the mortality from neoplastic and other diseases. The membership rosters of a number of professional societies have been reconstructed and all physicians entering these societies during specified time intervals constitute the study population. The study population consists of over 25,000 individuals. A preliminary report presented last fall indicated that the radiologists are experiencing some shortening of lifespan.

Work initiated last year and now slowly bearing fruit will be the study of the effects of carbon 14. This is a cytogenetic study. In this study mice will be used in a controlled atmosphere containing labeled carbon dioxide until they acumulate gonadal doses of 0.1 r or a multiple of this. This mode of administration simulates one route of carbon 14 fallout intake. Some of the animals will be sacrificed immediately after achieving the desired dose; others will be allowed to live for varying time intervals. Ultimately all the male gonads will be examined for radiation damage by cytological techniques. Dosimetry will be carefully studied by means of liquid scintillation techniques and radioautography. Some reading of the experimental animals, between themselves and with controls, will be attempted.

In support of the initial baby tooth program begun in St. Louis, a second program has started in the gulf coast region with central headquarters in Louisiana. This program will cover the Gulf Coast States and the island of Puerto Rico.

The last year has seen the development of several projects in the area of radiochemistry. These are projects undertaken to determine the mechanisms of chemical protection from ionizing radiation at the molecular level as well as the elucidation of new compounds to protect mammals from the effects of ionizing radiation.

HIGHLIGHTS OF ACCOMPLISHMENTS

WATER SUPPLY AND WATER POLLUTION CONTROL

Comprehensive water pollution control activity

The Division completed 56 flow regulation-municipal and industrial water supply studies in calendar year 1963, bringing the total number of such studies completed to 156. PHS efforts in this area are carried on under the provisions of (1) the 1961 amendments to the Water Pollution Control Act, which provide for recommendations on water storage in proposed Federal reservoirs for the purpose of controlling water quality through streamflow regulation, and (2) the Water Supply Act of 1958, which directs the various Federal construction agencies to determine the need for and value of storage for municipal and industrial water supplies. Since this kind of information is closely related to comprehensive planning for water-pollution control, PHS has been traditionally called upon to conduct municipal and industrial water supply studies for the U.S. Army Corps of Engineers.

The final report on the development phase of a comprehensive program for the Arkansas-Red River Basins was completed. The report will identify the sources of salt pollution, recommend specific remedial action, and predict water quality improvement that such action may be expected to bring about.

Pioneering a newly developed method of automated information retrieval, the Chesapeake Bay-Susquehanna River Basins project has completed an analysis of all available data on water supply, use, and treatment in the Susquehanna subbasin. Taken together with the results of specific water quality measurements presently underway, this body of information will form the foundation for a sound comprehensive plan for controlling pollution. The project has already begun to develop similar data for the Chesapeake portion of the study area. During the current fiscal year a new field staation in Annapolis, Md., will be opened to supplement existing facilities in Charlottesville, Va., and New Cumberland, Pa.

The Columbia River project has been highly successsful in adapting computer techniques to comprehensive planning. Using a self-developed mathematical model to predict dissolved oxygen concentration under various conditions of waste loadings, waste treatment, and flow in the Willamette River subbasin, the project has obtained invaluable information regarding (1) waste-treatment needs at specific locations, (2) requirements for flow regulation; and (3) the optimum future location of industrial plants.

Another mathematical model has been developed for use in the Delaware River Estuary. This system, designed to accept a continuous feed-in of new data from monitoring stations, storm-water overflow points, and treatment plants, will provide answers on the cost of attaining specific water quality objectives. For example, calculations carried out during the past year indicated that the minimum cost of a program to maintain a level of 2 milligrams to 1 of dissolved oxygen in the estuary would be about one-third of the cost of obtaining 4 milligrams to 1 of dissolved oxygen. Although work is continuing to perfect this mathematical model, all indications point to a significant breakthrough in the technique of comprehensive planning.

The Great Lakes-Illinois River Basin project was acclaimed by a number of government, scientific, and local groups for significant contributions toward pollution abatement. In response to a request from the U.S. Department of Justice, the project has submitted 17 separate volumes of data to the Supreme Court relating to current litigation on the diversion of Lake Michigan waters by the city of Chicago. This remarkable effort was accomplished as part of what has become the largest and most comprehensive study of current measurements ever undertaken in a major body of water. To date, the project's oceanographic investigations have resulted in a number of important findings concerning the influence of prevailing wind on water movement, clockwise and counterclockwise currents in Lake Michigan, the variability of the thermocline, large internal waves, and rotary currents.

In 1963, a comprehensive water-pollution-control program was begun on the Ohio River Basin. A field office in Wheeling, W. Va., provided a base of operations for key staff to begin studies on the upper portion of the basin, where initial efforts have been concentrated in the collection of basic data on stream quality and sources of pollution. In 1964, the project expanded into the lower Ohio with the establishment of a field station at Evansville, Ind. This office will concentrate initially on cooperative activities with the Corps of Engineers in the Wabash River Basin.

One new project—the southeastern river basins—was launched in 1964. To date, the project has concentrated on assembling a professional staff and analyzing existing water-pollution data in the Apalachicola-Chattahoochee-Flint Basin.

Enforcement.—From 1956 through December 31, 1963, 29 actions, including 9 initiated in fiscal year 1964, have been instituted, of which 27 remain under Federal enforcement jurisdiction. A total of 36 States and the District of Columbia are parties to these actions. They involve some 700 municipalities and about the same number of industrial plants. Large metropolitan areas, such as New York City, St. Louis, the Kansas Citys area, and Portland, Oreg., and several large corporations are covered in these actions. Over 7,000 miles of rivers and bays are affected (not including Raritan Bay and Puget Sound).

Over half of these actions (16) were instituted on the basis of the discretionary authority vested in the Secretary by the Water Pollution Control Act.

As a result of the nine actions in 1964, two new major on-site studies have been initiated to develop data necessary to the effective resolution of highly complex pollution situations. These are the Twin Cities-upper Mississippi project and the South Platte River project. In the other cases, lesser investigations were conducted and complete or partial remedial programs established.

Implementation of the program to abate and control pollution emanating from Federal installations which began in 1963 is progressing rapidly in 1964 and will continue in 1965. Based on the inventory of waste treatment practices at Federal installations, regional and field staff are making on-site surveys and preparing reports on the need for new improved and additional treatment facilities at various installations.

Research.—The virucidal efficiencies of several forms of iodine against enteric viruses have been determined. These studies have shown the value of I_2 and HOI as disinfecting agents against viruses and show that under certain conditions iodine may be more effective than chlorine as a water disinfectant. This is of great practical significance because of the increasing use of iodine in pool disinfection and its universal use as an emergency water disinfectant.

An enteric virus study of the hyperion ground water recharge project was completed. During the course of this study, a live poliovirus immunization program was conducted in the Los Angeles County area. This fortunate coincidence allowed testing of the entire hyperion treatment project under extreme virus-loading conditions not likely to ever be encountered under normal conditions. This has resulted in field-type data on the efficacy of activated sludge sewage treatment on enteric viruses heretofore never obtainable. None of the viruses under test was found in the recharge water.

It was found that a concentration of zinc and copper mixture which was one-sixteenth of the toxic level as measured in 96-hour tests completely eliminated all reproduction of fathead minnows. The fish appeared completely normal and gave no visible appearances of harmful effects. It was also found that concentrations of detergents (ABS) considerably lower than those which have been shown to be detrimental to adult fishes, are detrimental to the reproduction of fathead minnows. These findings are especially important in water pollution studies as they indicate that many harmful effects can go undetected.

Studies of the effects of dissolved oxygen concentrations on the toxicity of zinc at subacute concentrations indicated that lowering the dissolved oxygen level from 6 parts per million to 2 parts per million doubled the toxicity of the zinc. This study is of importance as it indicates that in areas where toxic materials are discharged. the dissolved oxygen concentrations are of great importance in governing the toxicity of the waste or in the establishment of safe levels.

Developing new design features and operating procedures through pilot plant testing has served to stimulate interest in constant raw and finished water monitoring and reduction of pretreatment costs at many water treatment plants. Pilot plant and full-scale water plant tests have shown that filtration rates three times higher than conventional rates can be employed in water plants, particularly if dual media beds are used and there is proper prefiltration treatment. These experiments have demonstrated that specific particulates such as virus, coliforms, powdered activated carbon, and clay, can be removed at a 6-gallon rate as well as a 2-gallon rate. With certain relatively clear raw waters this removal can also be accomplished without the conventionl flocculators or sedimentation tanks ahead of the filters.

A continuing investigation was begun with the objective of devising really satisfactory methods for the identification and determination of synthetic pesticides, both chlorinated and phosphorus-containing, in polluted waters. Despite the abundant literature, in most cases present methods are not capable of giving a definitive identification of the cause of an apparent fish kill. Improved methods of sampling pesticides in water were developed based on unusual adsorbants or selected solvent extractants. The nature of interference by other organics in most of the common analyses for chlorinated pesticides were developed. A promising new analytical method for phosphorus insecticides as a class, based on improved application of the anticholinesterase test, was carried well along to successful development during the year.

A study was undertaken to develop methods for the recovery and identification of liquid waste resulting from the production of biological products. Waterborne wastes from the fermentation industries are difficult to differentiate from natural biological metabolites that occur in streams. The procedure developed enables identification of fermentation broth of various microorganisms in river water diluted one forty-thousandth.

Activated carbon has been demonstrated to be an effective adsorbent for 75 to 80 percent of organic contaminants (90 percent ABS) remaining in municipal effluents; it can be thermally reactivated for reuse; its use is reasonably economic; fundamental parameters relating to adsorption and a conceptual design for a pilot plant have been developed. Thus, a major portion of organic contaminants can now be removed from effluents, which is a substantial and necessary step toward making the water reusable.

Fundamental parameters pertaining to foam fractionation to remove 30 percent of residual organic contaminants (95 percent ABS removal) from effluents have been developed; greater removals by use of additives has been shown; a pilot unit (0.5 mgd) has been put into operation; projections of cost of process indicate it is a low cost process. Substantial removal of refractory organics from effluents can be obtained in a few minutes at reasonable cost. This treatment provides water suitable for some reuses and serves as a partial treatment for other reuses.

Concentrations of inorganic soluble solids can be reduced in effluents by use of electrodialysis; efficiencies, problems, and estimated costs have been determined. Pilot plant design information has been prepared and a pilot plant will be operated pending site selection and funding. Such a process is essential in a water recycle system; nonusable waters can be made usable.

An instrument developed by the Dow Chemical Co. to measure organic carbon in aqueous solution has been studied and applied to a large variety of samples and to determining the carbon balance through an activated sludge treatment plant. The usefulness, sensitivity, and application of an important new tool in water pollution control has been demonstrated.

The taste and odor effects, toxicity, explosion hazard, and analysis of light hydrocarbons that may be added to waters in freezing or hydrate processes have been studied. Important information relating to hydrocarbons has been developed which is useful to the Office of Saline Water and the Public Health Service.

Basic data program.—Progress has been made as follows:

Water quality data now are being obtained regularly from 128 key sampling points on important interstate waters essential in the development of comprehensive water resources programs, supporting enforcement activities, and also assisting State, interstate, and other agencies in their control programs. Data collection in the year ending September 30, 1963, have required about 215,300 water quality determinations on 23,100 samples of water.

Regular reports on water and sewer bond sales, added to reports on construction, have continued to supply valuable economic data on water quality management.

Collection, publication, and analysis of inventories of water and waste treatment facilities have been made truly national in scope, and are operating on a reliable schedule.

Data on fish kills caused by polluted water are being assembled routinely and have given added impetus to the cause of water pollution control.

Technical assistance.—Continued development of data concerning the effect of widespread agricultural use of pesticides on water quality. New measurement techniques developed by PHS scientists have greatly speeded identification and increased the number of samples which can be identified. Findings confirm that standard pest control practices can and do result in the contamination of surface and ground waters. Also, preliminary investigations indicate that insecticide manufacturing plants can be a significant source of insecticide contamination. Furthermore, it has been conclusively demonstrated that conventional water treatment is ineffectual in removing trace quantities of four of the most toxic and commonly used chlorinated hydrocarbon insecticides. However, the evidence obtained from two studies indicate that, under certain circumstances, DDT can be used for the control of certain pests without resulting surface water contamination.

Recreation and water quality studies are underway in three regions of the Nation. The purposes of these field studies are to determine the effects on water quality of the use of impounded waters for recreation and to determine the feasibility of using treated waste waters for recreation and fisheries. The latter is being studied at the Santee recreation project in San Diego in cooperation with State and local agencies. A series of lakes have been designed for water contact activities, including swimming, to make possible the use of reclaimed sewage water that has been treated to a high degree. Significant progress in the field of sewage reclamation and recreation has been made in (1) the determination of virus; (2) the measurement of nutrient changes through a spreading operation, recovery stream, and recreational lakes; (3) the support of a waste water fishery; and (4) the area of public acceptance of waste water for recreational use. Other accomplishments will be related to the thorough bacteriological, chemical, and biological data accumulated during the 2½ years of operation.

A special study was begun in the Klamath River Basin in Oregon. Efforts will be directed toward abatement of pollution from excessive algae growths and pollution thought to result from intensive land use, where runoff waters carry significant quantities of minerals, pesticides, and fertilizer leached from the soil.

In another area, plans were initiated by the Department of Health, Education, and Welfare, in cooperation with the Department of Interior, for a coordinated demonstration program dealing with acid mine drainage. Abatement of acid pollution may be the key to development of depressed areas in the Appalachian region.

Specialized assistance has been provided to communities, States, and other Federal agencies. This included assistance to State of North Carolina in the confirmation of the suspected cause of a large fish kill in the Roanoke River; to State of Missouri in the development of recommendations for the improvement of pollution control by steel mills in the Kansas City area; to State of California and the Bureau of Reclamation in dealing with aquatic nuisance problems stemming from irrigation development projects; to State of Minnesota in evaluating the water pollution effects of large soybean and mineral oil spillage in the Minnesota River; a pollution study in connection with the U.S. Corps of Engineers' Hilo Harbor model study in Hawaii; and a study to determine the effect of the new Hartwell Reservoir on pollution conditions in the upper Savannah River.

Research grants.—In 1964, the number of awards will increase to 215 from the 1963 awards totaling 183. A significant factor in this program is the variety of research projects being supported.

Examples of 1963 awards to illustrate types of investigations being conducted are as follows:

University of Alabama, University, Ala.: A research grant to study nematode worms in sewage treatment plants has been awarded to Prof. James Walters in the department of civil engineering. This is a combined engineering, biological, and bacteriological study. The aim is to determine the effect of actual treatment processes upon these worms, and to learn the extent to which they ingest and excrete pathogenic bacteria.

Purdue Research Foundation, Lafayette, Ind.: In the department of civil engineering, Prof. Don Bloodgood is directing a project on "Sludge Concentration by Pressure Wave Irradiation." The aim of this research is to evaluate a completely new method for reducing the volume of sludge solids, and its application to the treatment of sewage, water, and industrial wastes.

Iowa State University of Science and Technology, Ames, Iowa: In the department of soils and physics, Prof. Don Kirkham is investigating the movement of water from waste recharge installations. The aim of this project is to develop basic information concerning the seepage of water from a waste recharge installation, using laboratory and full-size field studies.

Research fellowships.—This program is designed to support individuals who have demonstrated the desire and special talent to carry on independent research in water supply and pollution control. These scientists and engineers are supported for postgraduate study and research in a wide variety of disciplines. This is to increase the Nation's trained manpower resources in the water supply and pollution control field.

In 1964, the appropriation of $474,000 is expected to support a total of 68 fellows. Disciplines specialized in include sanitary engineering, biology, chemistry, conservation, animal physiology, limnology, ecology, and bacteriology. Project studies include such topics as degradation of pesticides pollutants in water, radioactivity research in water pollution, and decomposition of detergents in sewage by bacteria.

Training grants.—In 1964, the number of awards will increase to about 57 from 35 awards in 1963. The purpose of this program is to improve training for graduate students in the traditional water supply and pollution control field; and to provide a stimulus and interest to graduate students in other fields and disciplines whose talents must be brought to bear on many water pollution problems.

Examples of training grants awarded in 1963 are as follows:

Oregon State University, Corvallis, Oreg.: A graduate training grant in the department of oceanography provides instruction for professional training and research in the area of water quality control, marine resources, aquatic engineering, and health hazards. This training grant provides needed equipment and stipends for three graduate students.

University of Wisconsin, Madison, Wis.: This grant in the department of civil engineering supports a training program in water and water pollution chemistry and provides specialized training for chemists urgently needed in teaching and research positions. This training program involves training in chemical limnology and sanitary chemistry. The grant supports added staff and stipends for six graduate students.

Demonstration grants.—This program is designed to close the gap between the discovery of basic information and its application in practice. In 1963, 14 demonstration projects were supported. In 1964, 18 are anticipated.

Examples of grants funded in 1964 demonstrating accomplishments are as follows: A technical school in Missouri has shown the feasibility of developing a regional facility for the intensive training of water and sewage plant operating personnel. The Massachusetts Fisheries and Game Division has made a survey of streams contaminated by pesticide sprays, and is conducting studies to determine the feasibility of establishing safe spraying intervals to control accumulation of DDT in fish.

Waste treatment works construction grants program.—The 4,841 projects approved to January 15, 1964, will improve the quality of water in over 45,000 miles of stream for use as public and industrial water supplies, propagation of fish and wildlife, recreation, agricultural, and other legitimate uses.

[Dollars in millions]

	Number	Estimated project costs	Grants made or requested
Grant offers made (July 30, 1956–Jan. 15, 1964)	4,841	$2,463.1	$437.9
Projects under construction	1,067		
Projects completed	3,040		
Projects awaiting construction	734		
Additional applications being processed in regional offices and State agencies	564	385.6	83.0
Total applications approved and in process	5,405	2,848.7	520.9
Activities during calendar year 1963:			
Grant offers made	732	300.8	76.8
Projects placed under construction	823		
Projects completed	699		

HOSPITALS AND MEDICAL CARE

WITNESSES

DR. MYRON D. MILLER, CHIEF, DIVISION OF HOSPITALS, ACCOMPANIED BY:
DR. HOWARD D. FISHBURN, CHIEF MEDICAL OFFICER, COAST GUARD
NORMAN E. LINDQUIST, DIVISION EXECUTIVE OFFICER
LEO JOEL, DIVISION BUDGET OFFICER
DR. JAMES V. LOWRY, CHIEF, BUREAU OF MEDICAL SERVICES
DR. LEO J. GEHRIG, DEPUTY CHIEF, BUREAU OF MEDICAL SERVICES
DR. LUTHER L. TERRY, SURGEON GENERAL
HARRY L. DORAN, CHIEF FINANCE OFFICER
JAMES F. KELLY, DEPARTMENT BUDGET OFFICER

Object classification

[In thousands of dollars]

		1963 actual	1964 estimate	1965 estimate
11	Personnel compensation:			
	Permanent positions	36, 521	39, 684	40, 979
	Positions other than permanent	723	745	758
	Other personnel compensation	1, 146	1, 318	1, 222
	Total personnel compensation	38, 390	41, 747	42, 959
12	Personnel benefits	4, 561	4, 834	4, 925
21	Travel and transportation of persons	572	549	549
22	Transportation of things	498	502	502
23	Rent, communications, and utilities	1, 159	1, 154	1, 159
24	Printing and reproduction	133	122	122
25	Other services	2, 554	2, 658	2, 658
	Services of other agencies	863	776	1, 200
26	Supplies and materials	5, 857	6, 024	6, 514
31	Equipment	820	438	1, 065
41	Grants, subsidies, and contributions	1, 210	1, 210	1, 210
42	Insurance claims and indemnities	45		
	Subtotal	56, 662	60, 014	62, 863
	Deduct quarters and subsistence charges	440	440	440
	Total obligations	56, 222	59, 574	62, 423

Personnel summary

	1963 actual	1964 estimate	1965 estimate
Total number of permanent positions	6, 968	7, 027	7, 071
Full-time equivalent of other positions	121	121	121
Average number of all employees	6, 658	6, 768	6, 807
Employees in permanent positions, end of year	6, 706	6, 782	6, 831
Employees in other positions, end of year	362	327	327
Average GS grade	5. 1	5. 1	5. 2
Average GS salary	$5, 435	$5, 645	$5, 707
Average salary of ungraded positions	$4, 929	$5, 207	$4, 997

Program and financing

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
Program by activities:			
1. Inpatient and outpatient care	52, 433	55, 343	58. 095
2. Coast Guard medical services	1, 521	1, 618	1. 710
3. Operation of health units	869	1, 072	1. 068
4. Personnel detailed to other agencies	304	341	350
5. Payments to Hawaii	1, 200	1, 200	1, 200
Total program costs, funded [1]	56, 327	59, 574	62, 423
Change in selected resources [2]	−105		
Total obligations	56, 222	59, 574	62, 423
Financing:			
Comparative transfers from other accounts		−34	
Advances and reimbursements from—			
Other accounts	−6, 874	−7, 788	−8, 504
Non-Federal sources [3]	−582	−563	−1, 209
Unobligated balance lapsing	54		
New obligational authority	48, 820	51, 189	52, 710
New obligational authority:			
Appropriation	48, 820	49, 962	52, 710
Transferred to "Operating expenses, Public Buildings Service," General Services Administration (77 Stat. 436)		−5	
Appropriation (adjusted)	48, 820	49, 957	52, 710
Proposed transfer from "National Heart Institute" due to Uniformed Services Pay Act of 1963		1, 232	

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[1] Includes capital outlay as follows: 1963, $787, 000; 1964, $130,000; 1965 $1,065,000.

[2] Selected resources as of June 30 are as follows:

	1962	1963 adjustments	1963	1964	1965
Stores	723		750	750	750
Unpaid undelivered orders	2, 119	−1, 217	770	770	770
Total selected resources	2, 842	−1, 217	1, 520	1. 520	1, 520

[3] Reimbursements from non-Federal sources represent collections from pay patients (42 U.S.C. 221).

Program and financing

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
Program by activities: Inpatient and outpatient care (costs—obligations)		99	
Financing: New obligational authority (proposed transfer from National Heart Institute)		99	

Mr. Fogarty. All right, Dr. Miller, I understand you are going to testify on the program of hospitals and medical care.

General Statement

Dr. Miller. Mr. Chairman, I have a statement which has been filed, but with your permission, I would like to summarize it briefly.

Mr. Fogarty. All right, go ahead.

Dr. Miller. Mr. Chairman and members of the committee, I appreciate this opportunity to outline in brief the estimate for funds necessary to provide medical and dental care to patients who are authorized to receive such care in hospitals and clinics operated by the Division of Hospitals. It provides for the continued operation of 12 general hospitals, 2 neuropsychiatric hospitals whose primary mission is the care and treatment of narcotic addicts, and the hospital at Carville, La., which is the only hospital in the continental United States for the care and treatment of patients infected with leprosy. In addition to the hospitals, it provides for the continued operation of 24 outpatient clinics and 117 outpatient offices located in seacoast cities and along inland waterways. During 1965, it is estimated that approximately 1¾ million days of inpatient care will be provided in the hospitals. In addition, nearly 1.5 million outpatient visits will be made to the hospitals, clinics, and offices.

INCREASES REQUESTED

We are requesting some increases in funds over those appropriated for fiscal year 1964. The number of admissions to our hospitals is constantly increasing and the number of outpatient visits to our facilities is greater each year, considerably above our predictions. On the other hand, the length of hospital stay in PHS general hospitals has regularly declined and while this reduces the number of inpatient days of care, it also concentrates that care and increases the average daily hospital expense of caring for the patient. The constant development of newer medications and their increasing costs have added to the expense of hospital and medical care. Advances made in diagnostic, therapeutic, and other hospital techniques, while providing more modern and effective means of caring for patients, have also contributed to increasing costs. These increases parallel the general trend of increased costs of medical and hospital care and the changing pattern of patient management.

In addition to the function of providing medical and dental care to patients, the hospitals play a major role in recruitment and training of physicians, dentists and other health personnel and make a substantial contribution to the field of clinical research. These collateral functions provide significant additions to the health resources of the Nation.

We are recommending a total of $62,423,000 for program needs for 1965, this is an increase of $2,750,000 over 1964; $52,710,000 of this amount is in appropriated funds, and the remaining $9,713,000 in reimbursements, most of which will be received from other Government agencies for medical care provided to patients, and for other services. Included in these anticipated reimbursements is a total of $1,197,200 to be derived from charges for special study patients admitted to our facilities for research and training. A change in appropriation language is proposed to permit these latter charges.

Mr. Fogarty. Thank you, Doctor.

HISTORY OF 1965 BUDGET

This chart I have is a little unusual. It shows $51,322,000 appropriated for 1964 and you requested $55,290,000 for 1965. Then the Department—I do not know if they made a mistake here or not, but they raised your request up to $55,695,000.

Is that right? Am I seeing right?

Dr. MILLER. Yes, sir.

Mr. FOGARTY. What happened there?

Dr. MILLER. The Department increased the funds to try and reduce our equipment backlog, which they recognized was becoming more acute all of the time.

Mr. FOGARTY. That is a very unusual action for the Department to take, according to the rest of the budget, though.

You must be in real bad shape as far as equipment is concerned.

Dr. MILLER. I am sorry, sir?

Mr. FOGARTY. I say, you must be in real bad shape as far as equipment is concerned if the Department raised it when they are cutting back everything else.

Dr. MILLER. We have been making an effort to reduce our equipment backlog and we have done so approximately to the extent of $300,000 a year; but it still remains about $4 million. About half of the equipment increase is to take care of our backlog and about half of it is to equip new outpatient clinics which are being opened at Honolulu, San Diego, and New York City.

Mr. FOGARTY. But then when you get to the administration, they did not think so much of this, did they? They cut you back almost $3 million.

Would you put in the record the complete breakdown of this cut?

Dr. MILLER. Yes, sir.

Mr. FOGARTY. And how it affects your hospital program.

Dr. MILLER. Yes, sir, I will be happy to do so.

(The requested information follows:)

The effect of the reduction of $2,580,000 is outlined by item in the tabulation below:

Item of reduction	Position	Amount	Effect of reduction
Changes by Office of the Secretary:			
Additional costs of within grades.		$220,000	This reduction removed from 1965 the restoration of within-grade costs that had to be absorbed in 1964 because of insufficient funds.
Equipment (an increase to reduce backlog).		+625,000	The Office of the Secretary increased the request of the Division for equipment replacement funds to accelerate the rate of elimination of the $4,000,000 backlog of equipment needs of the hospitals and clinics.
Subtotal		+405,000	
Bureau of the Budget reductions:			
Staffing increase	154	596,000	This reduction virtually eliminated a request which was proposed as the first step in a 4-year program to fulfill the staffing needs of the hospitals.
Equipment		531,000	This reduction left $1,035,000 for equipment. Our total needs recorded on a station-by-station and item-by-item basis amounted to $4,030,772 as of July 1, 1963, of which 63 percent was for replacements. The allowance will leave a backlog of $3,000,000 without regard to the additional items which will reach a condition or become obsolete to an extent that will require their replacement during the current year.
Miscellaneous adjustment (unit).		+33,000	An unspecified increase by the Bureau of the Budget was applied toward our equipment needs.

Item of reduction	Position	Amount	Effect of reduction
Changes by Office of the Secretary—Continued			
Coast Guard medical services.	5	$43,000	The reduction cut in half the added personnel requested to staff the substantially enlarged infirmary at the Coast Guard Academy in New London.
Operation of health units	----------	7,000	The reduction is from 1964 experience which was proposed as the estimate for 1965.
Cost of Military Pay Act	----------	35,000	This reduction is in accordance with the reduction of 154 positions explained above.
Supplemental for wage board and other mandatory salary increases.	----------	609,000	This was a reduction in appropriated funds requested as a supplemental in 1964 for wage board and other mandatory increases. Of this amount, $148,000 will be supplied by an increase in reimbursement rates. The remaining $461,000 represents an absorption in 1964 of these needs which will require a reduction of 33 positions and $220,000 in personal services and $241,000 in other objects, primarily supplies. This reduction in base was carried into 1965 by the Budget Bureau action.
Special study cases, change to reimbursable.	----------	1,197,000	This reduction was implemented by the following change in appropriation language: "*Provided further*, That patients admitted for special study under section 301 of the Act to facilities financed by this appropriation may be charged for care and treatment at the same rates as may be established for comparable care and treatment under the Dependents' Medical Care Act (10 U.S.C. 1085) and the proceeds thereof received during the current fiscal year shall be credited to this appropriation." The change in language requires that these funds be obtained by charging special study patients $40 per day. Approximately, $569,000 will be financed directly or indirectly by funds from the National Institutes of Health. The balance, $628,000, is to be provided directly from patients who are admitted by our staff for our own research and training.
Subtotal	159	2,985,000	
Total reductions	159	2,580,000	

SUMMARY OF 1965 BUDGET

Mr. Fogarty. Now including the pending supplemental reimbursements and comparative transfers, you estimate you will have $59,673,000 available for 1964 and $62,423,000 for 1965. This is an increase of $2,750,000 and 44 positions.

Dr. Miller. Yes, sir.

Mr. Fogarty. About two-thirds of the increase is necessary to cover mandatory costs and about two-thirds of the remainder, $634,000, is for additional equipment.

Dr. Miller. Yes, sir.

BREAKDOWN OF EQUIPMENT BUDGET

Mr. Fogarty. Will you supply for the record what equipment this is and why it is necessary?

Dr. Miller. I will be happy to do so, sir.

(The information supplied follows:)

Equipment, $634,000 Increase

Our currently estimated equipment backlog in hospitals and clinics as of July 1, 1963, was $4,030,772. These requirements are itemized and justified in the equipment requirements of each station on file in headquarters. Taking into consideration the funds available for equipment in 1964 and requirements that will accumulate during 1964, the total unmet equipment requirements as of July 1, 1964, will be $4,730,000 of which 63 percent are for replacements.

The amount available, including the requested increase of $634,000 will be programed as follows:

Purchases to reduce replacement backlog	$724,000
Purchases for expanded facilities at the Honolulu, San Diego, and New York outpatient clinics	[1] 311,000
Total	1,035,000

A table reflecting the equipment requirements and proposed purchases fiscal years 1963, 1964, and 1965 is shown below:

	Actual, 1963	Estimate, 1964	Estimate, 1965
1. Major equipment requirements as of July 1 (for the hospitals only)	$3,200,587	$4,031,000	$4,730,000
Additions to survey:			
(*a*) Clinic requirements as of Jan. 1, 1963	213,639		
(*b*) Requirements for Honolulu	56,000		
(*c*) Requirements for Miami	52,000		
(*d*) Requirements for San Diego	55,000		
(*e*) Requirements for New York outpatient clinic	200,000		
(*f*) Other additions to survey during fiscal year	1,039,112	1,100,000	
Subtotal of requirements	4,816,338	5,131,000	4,730,000
Purchases to reduce backlog	785,566	401,000	1,035,000
Total backlog as of end of year	4,030,772	4,730,000	3,695,000
Hospitals	3,450,253	4,119,000	3,395,000
Clinics	250,519	300,000	300,000
Honolulu	56,000	56,000	
Miami	19,000		
San Diego	55,000	55,000	
New York	200,000	200,000	

No provision is made for additions to survey during the fiscal year 1965 because we expect to have in operation a punch card system which will be used to produce a report projecting annual replacement needs on an item-by-item basis. Some of the specific items for which replacements are badly needed are listed on the following pages.

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[1] The New York outpatient clinic will be relocated at Varick Street during fiscal year 1965.

Representative selection of specialized equipment replacement requirements, fiscal year 1965

	Replacement cost	Age	Life expectancy
Baltimore:			
X-ray apparatus, 500-milliampere with image intensifier	$26,000	25	15
Light, slit, ophthalmological	1,500	20	13
Anesthesia apparatus	1,200	23	10
Boston:			
X-ray apparatus, 500-milliampere with image intensifier	26,000	21	15
Dental operating units, 3, at $1,425	4,275	25	15
Chairs, dental, 8, at $705	5,640	25	15
Carville:			
Table, operating, major surgery	1,887	42	20
Anesthesia apparatus	1,128	16	10
Truck, firefighting	10,000	18	8
Chicago:			
Cart, conveyor, tray, 3, at $1,800	5,400	22	10
Mixing machine, 60-quart	1,224	18	10
Table, operating, major surgery	1,887	27	20
Detroit:			
Sterilizer, 24 by 36 by 48	6,000	30	20
Table, operating, major surgery	1,887	30	20
Fort Worth:			
Sterilizer, 20 by 20 by 36	2,743	25	20
Refraction unit	1,027	27	15
Machine, dishwashing	10,000	14	10
Galveston:			
Table, operating	$1,887	34	20
X-ray apparatus, 300-milliampere	14,000	33	15
Lexington:			
Units, dental, operating, 6, at $1,425	8,550	25	15
Bed units, 282, at $120	33,840	29	15
X-ray apparatus, 300-milliampere	14,000	18	15
Memphis:			
Table, urological, X-ray	1,800	26	20
X-ray apparatus, portable	1,200	27	15
Range, cooking, 2, at $1,000	2,000	20	10
New Orleans:			
Beds, hospital, 249, at $121	30,129	25	15
Table, urological, radiographic	2,000	23	15
Film processing machine, X-omat 400	14,000	(1)	13
Norfolk:			
Sterilizer (2)	11,000	(2)	20
Transformer, X-ray, 500-milliampere	7,500	23	15
Machine, dishwashing	4,095	15	10
San Francisco:			
Audiometer	1,600	15	10
Tables, operating, major surgery, 2, at $1,887	3,774	25	20
Truck, dump, 2-yard	4,500	15	8
Tables, examining, 6, at $288	1,728	(3)	(3)
Savannah:			
X-ray apparatus, 300-milliampere	14,000	30	15
Intercom system	5,000	(4)	(4)
Seattle:			
Units, dental, operating, 6, at $1,425	8,550	32	15
Counter, cafeteria	2,400	32	10
Staten Island:			
Cobalt source	10,000	(5)	(5)
Meter, hydrogen ion test	2,300	25	13
Spectrophotometer	4,000	25	10

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[1] To replace antiquated, inefficient, and inaccurate equipment.
[2] 25 plus.
[3] To replace homemade wooden tables now beyond service.
[4] Old system outmoded and inefficient.
[5] Old source has served expected life and must be replaced.

A large number of different items of small unit cost	$11,349
Equipment for expanded facilities at the Honolulu, San Diego, and New York outpatient clinics	311,000
Total increase	634,000

INCREASE IN OUTPATIENT CARE

Mr. Fogarty. You also request an increase of $272,000 to finance 39 additional positions for inpatient and outpatient care. Where are these new positions needed and how serious is the need?

Dr. Miller. The new positions are primarily to provide services for the care of the markedly increasing outpatient loads that we have had in recent years.

Mr. Fogarty. What is the reason for the increase in outpatient care?

Dr. Miller. It is the general trend of the patient care program. We have had increased admissions to our hospitals. The length of stay in our hospitals has declined and there has been a general trend toward ambulation of patients and ambulatory care. So we have continuously had an increase in our number of visits to our outpatient clinics, both in the separate outpatient clinics and at the hospitals. This has exceeded our estimates over several years.

Mr. Fogarty. That still is not clear to me. What is the reason for this continual increase?

Dr. Lowry. Two principal reasons, Mr. Chairman. One is that we are now able to take care of more patients as outpatients and reduce the need for hospitalization. The second factor has been the increasing number of outpatients who are dependents of uniformed services personnel. These dependents come to our hospitals and clinics because they are more readily accessible than other facilities. Their numbers have been increasing over the last few years.

Mr. Fogarty. I understand the first part, but I do not understand the second reason.

Dr. Lowry. You recall that the dependents of personnel in the uniformed services can get outpatient care at uniformed services facilities.

Mr. Fogarty. Yes.

Dr. Lowry. Prior to the enactment of the Medicare Act, we took care of a limited number of our own dependents.

Mr. Fogarty. Oh, I see.

Dr. Lowry. We are now getting the dependants of Army and Navy personnel. They include a lot of pediatric cases.

Mr. Fogarty. I see.

COAST GUARD MEDICAL SERVICES

Why do you need an increase of $48,000 and five positions for Coast Guard medical services?

Dr. Terry. Dr. Howard Fishburn, Chief Medical Officer of the Coast Guard, is here.

Mr. Fogarty. You were in uniform the last time you were here.

Dr. Fishburn. I was, Mr. Chairman, but I received the notice a little late and traffic was rather heavy today.

Mr. Fogarty. Well, it does not make much difference here anyway.

Dr. Fishburn. This increase, Mr. Chairman, represents an increase in size of the New London facility, which is in the process of being rebuilt. We suppose it will be open July 1.

FUNDS FOR SERVICES OF OTHER AGENCIES

Mr. Fogarty. I notice an increase of $424,000, over 50 percent, in services of other agencies. What occasions this increase?

Mr. Joel. That is the transfer of $853,000 for services that were formerly performed by GSA. This is for minor repairs and maintenance in the hospitals of the Division. It is divided into two parts: $453,000 for supplies and $400,000 for services, the latter, which GSA will furnish to us on a reimbursable basis.

CHANGE ON APPROPRIATION LANGUAGE

Mr. Fogarty. You are requesting an addition to the appropriation language that would have a serious effect on your budget if we did not allow it, so you had better give us good reasons for it.

Dr. Miller. The change in appropriation language relates to charging for special study patients. We are requesting a language change to authorize us to make a charge of $40 a day to the special study patients who are admitted to our hospitals for training and research.

Mr. Fogarty. What will happen if you do not get this language? This might be subject, of course, to point of order.

Mr. Kelly. Mr. Chairman, this would be a very serious thing if this were to occur.

Mr. Fogarty. Well, what do you think? Do you think it would be subject to point of order or not?

Mr. Kelly. I think it probably would be. It is a change in legislation.

Mr. Fogarty. It may get by all right, but——

Mr. Kelly. Well, these special study cases that are admitted to the hospital perform three major functions for the hospitals: One, they permit the conduct of training program for interns and residents, particularly in connection with pediatrics and obstetrics; two, they also permit the hospital to carry on the research program which is funded by this appropriation; and, three, they permit the hospital to carry on the research program of both collaborative and grant research supported by the National Institutes of Health.

All three of these programs would be adversely affected if the hospital were unable to take these special study cases into their facility.

Mr. Fogarty. In dollars, how would it be affected?

Mr. Kelly. Almost $1.2 million is involved in this issue.

Mr. Fogarty. I see.

JUSTIFICATION FOR CHARGING SPECIAL STUDY PATIENTS IN HOSPITAL

Now, what is the reason for charging special study patients in your hospitals and not at the Clinical Center at Bethesda? What is the overall policy?

Dr. Terry. As you know, we have not charged for special study patients in our hospitals until this time, just as we have not charged for patients in the Clinical Center. This was an administration decision which determined that, at this time, such charges should be made for those individuals.

Mr. Kelly. This will not necessarily involve charging the individual patients if they are clearly a research patient participating in a project which is supported either as a grant project or collaborative undertaking with the National Institutes of Health. Rather, it will be the cost of the research undertaken and supported by the National Institutes of Health, rather than the cost by the hospital under its appropriation.

Unfortunately, we do not have a similar method for handling those special study cases required because of a training undertaking. In this instance, the patients would have to make the payment in order to be admissible to the hospital.

Mr. Fogarty. Why do it in one case and not the other?

Mr. Kelly. In connection with the research itself. I think we would be following the same basic premise, but not in connection with the training.

Dr. Terry. On the other hand, I would say many, and I would say most, of the research patients admitted in this category in the past have not been program supported by the NIH. So that this does not mean that even for all of the research patients that we would be able to recoup this money, so to speak, from NIH support.

REDUCTION IN BUDGET REQUESTS FOR COAST GUARD

Mr. Fogarty. Dr. Fishburn, how many positions did you ask for in your original request? What did I say, five?

Dr. Fishburn. The Department asked for 10 new positions for this year; 10.

Mr. Fogarty. And that was eight nurses and two doctors?

Mr. Lindquist. That is right.

Mr. Fogarty. Who cut you down to five, the Department?

Mr. Kelly. Bureau of the Budget.

Dr. Fishburn. Bureau of the Budget.

Mr. Fogarty. Did they give any reason for cutting you back? For cutting your request in half?

Dr. Lowry. Do you know of any reason, Mr. Kelly?

Mr. Kelly. I do not know.

RETRAINING OF RESERVES

Mr. Fogarty. What are you doing about the training or retraining of Reserves for duty in the event of an emergency?

Dr. Fishburn. Mr. Chairman, we have set up a Reserve program, an Inactive Reserve program, within the framework of the Inactive Public Health Service Reserve, and have issued mobilization orders, et cetera, the same as the other Armed Forces have for their Inactive Reserves. But we have been unable to support a training program.

Mr. Fogarty. The Inactive Reserve has not worked out very well, either, in the other forces; has it?

Dr. Fishburn. Well, they have their problems; yes, sir.

Mr. Fogarty. That is my understanding of it.

REDUCTION IN REQUEST FOR THE COAST GUARD

Do you still think that you need 10 additional positions, instead of 5 that you request?

Dr. FISHBURN. This five will be a good start toward——

Mr. FOGARTY. Do not try to justify the administration's position on this. I want to find out what is really needed.

Dr. FISHBURN. We need 10 positions. And, particularly, if this hospital opens on schedule.

Mr. FOGARTY. When is that?

Dr. FISHBURN. The target date is June 30.

Now, there is a possibility there may be some delay as far as the opening of it.

Dr. LOWRY. Mr. Chairman.

Mr. FOGARTY. I do not suppose you can say much more in the position you are in, but it seems to me if you think that 10 are needed to man this new hospital addition, that the Bureau of the Budget should have given them to you.

I do not know why they should make second-class citizens of the Coast Guard.

Dr. FISHBURN. I certainly appreciate your point of view. I can only agree with you, sir.

TRAINING RESERVES

Dr. LOWRY. Mr. Chairman, with regard to your comment about the Inactive Reserve, our medical and dental officers to whom these orders have been issued have all indicated their willingness and readiness for call to active duty and also for training. I do not know if our experience is different than the others. However, the members in our Inactive Reserve have indicated their desire and willingness to be put or assigned to the Coast Guard activity.

STATUS OF PHS HOSPITALS

Mr. FOGARTY. You have one good supporter of your hospitals, and that is the Labor-Management Maritime Committee. They are sending me letters all the time and coming in to see me. They are real supporters of yours. I have one dated February 14 that I will put in the record.

(Letters follow:)

LABOR-MANAGEMENT MARITIME COMMITTEE,
Washington, D.C., February 14, 1964.

HON. JOHN E. FOGARTY,
Chairman, House Appropriations Committee, Subcommittee on Labor, Health, Education, and Welfare, Washington, D.C.

DEAR CONGRESSMAN FOGARTY: We are writing you with respect to the Public Health Service hospital at Galveston, Tex. Without doubt, the overcrowded conditions of this hospital are in the worst state of any of the general hospitals in the Public Health Service program. While the present constructed bed capacity is only 79, the hospital is now operating with 160 beds. This represents an overoccupancy of 102 percent in terms of constructed bed capacity.

It is estimated that even the average daily patient load will amount to 180 over the next 5 years, with the outpatient workload estimated to reach 50,000.

Overcrowded conditions are evident in every department. Excessive waiting lines are the rule in the outpatient care program. Deterioration of facilities continues without appropriate remedy. Improvisations of varied types and descriptions are constantly being applied by the staff to compensate for the needed major construction and capital improvements. We suggest that the committee may wish to go into this matter specifically in its hearings on the public health hospital service program for the 1965 fiscal year.

We feel sure the committee will find the situation at Galveston such as to warrant immediate action to protect the service from further deterioration and to provide the type of assistance needed to maintain modern standards.

Respectfully yours,

EARL W. CLARK,
HOYT S. HADDOCK,
Codirectors.

Mr. FOGARTY. They are very much concerned about your problems. The one dated February 20 said:

We have noted in a release entitled "Report on the Medical Sciences," by Gerald G. Gross, dated December 23, 1963, under the caption "PHS Hospital System is in Peril of Dissolution," that some proposals have been made to close the general Public Health Service hospitals and transfer the beneficiaries to military hospitals.

Such a move would be most unfortunate as military hospitals are not geared to the type of service required under the marine hospitalization program. We sincerely trust that such a program is not seriously considered.

We respectfully suggest that inquiry be made of those from the Public Health Service, who testify on the Budget for the fiscal year 1965, to determine what, if any, moves in this direction are being considered and what the attitude of the Public Health Service would be.

This is most important. We believe it would be extremely unwise and it would not result in any particular savings in expenditures. Thank you for past courtesies.

Respectfully,

EARL W. CLARK,
HOYT S. HADDOCK,
Codirectors.

Who wants to answer this inquiry?

Mr. KELLY. Mr. Chairman, this problem also arose this morning in our testimony before the Senate Appropriations Committee. The chairman addressed an inquiry to the Secretary about this, and he answered it, so I might try to give you the same flavor he gave at that meeting.

He indicated that this has been unresolved, an unresolved issue, for about 7 years in connection with the operation of the hospitals, during which time major improvements have not been made in physical facilities, and this was of much concern to him; that it was true that a plan had been developed for consideration by the administration of transferring the hospitals, and a significant part of the responsibilities, to the Veterans' Administration; that he had met with the Director of the Budget Bureau on Saturday to discuss this.

I was privileged to make a presentation to the Director of the Budget Bureau analyzing the background of the problem in an analysis of this most recent proposal, and the Secretary indicated that the Director of the Budget Bureau had been quite receptive to this analysis. The Secretary also indicated that both he and the Director of the Budget Bureau had agreed that this should not be allowed to continue unresolved as it has been, and that both of them have directed their efforts toward a very early conclusion of it. The Secretary further stated that they expect to be able to make a report to the Congress of the plans for the carrying out of the responsibilities assigned to the Public Health Service and for putting the facilities in first-class condition to accomplish these responsibilities.

Mr. FOGARTY. What was that last statement you made?

Mr. KELLY. The Secretary is very much in hopes of being able to give a report to the committees that this has been resolved, that there has been a favorable conclusion, and that this conclusion would follow with a plan for putting the facilities required in first-class physical condition. The hospitals unquestionably have gone downhill during the period in which this has been unresolved.

Mr. FOGARTY. But he did not agree with the proposition of turning this over to the military hospitals?

Mr. KELLY. No; the Secretary said that he personally, strongly supported the view of the Public Health Service; that these hospitals should remain in service and that they represent a real contribution to the recruitment, training, and development of manpower for all of the programs.

Mr. FOGARTY. Will you tell the Secretary that I agree with that position, the position of the Public Health Service, and I think it is high time that we did something in getting these hospitals into shape.

This committee tried to get this off the ground 7 or 8 years ago in providing more funds than the budget requested for equipment.

Dr. TERRY. You have done that, Mr. Chairman.

Mr. FOGARTY. Also training. And also allowing research funds to be expended in these hospitals. And I would hope that you see the Secretary gets the message from the chairman, anyway, of the committee that I agree with him 100 percent and am willing to cooperate with him in trying to get the funds necessary to modernize these hospitals and keep them as a part of the Public Health Service.

EFFECT OF INDECISION

Dr. TERRY. I think the tragic thing, Mr. Chairman, is to have an issue like this hanging on in a relatively unresolved manner for a period of years; because it has not only resulted in deterioration of our physical plant, but resulted really in serious obstruction to rendering good medical care. But even more serious——

Mr. Fogarty. Also it affects your entire training program, does it not?

Dr. Terry. But even more serious than that has been the demoralizing effect on the staff of our hospitals in the Division of Hospitals. It is to a degree that if it continues any longer, we literally will not be able to attract and keep first-class men in our hospitals.

At the same time, the Public Health Service's greatest interest in these hospitals is because of their contribution toward the recruiting and training of career persons for the rest of the Public Health Service. It is not just those who enter the Division of Hospitals that are trained and remain in the Division of Hospitals, but when one looks at it, you see that it has been by far the most significant recruiting and training device that we have in the entire Service for physicians, dentists, and other professional personnel.

Mr. Fogarty. I agree 100 percent with that statement. I would hope that something can be resolved, and shortly, and that it will be resolved in favor of the position the Public Health Service has taken.

Dr. Terry. I would like to say one other thing.

Mr. Fogarty. Sure.

IMPORTANCE OF RESEARCH ACTIVITIES

Dr. Terry. We are deeply appreciative for the support you have given us in the past. I do not know, Mr. Chairman—if you had not recognized some of our needs in relation to research and further staff support in the last few years, we literally would be out of business today.

Mr. Fogarty. Well, I think you can do better than you are doing. We saw some space you could be using out in San Francisco that is not being used.

Dr. Terry. Lots of things need to be done in our hospitals.

Mr. Fogarty. I saw some space that could be used, and more research carried on.

Dr. Terry. Take, on the other hand, space, Mr. Chairman, in a hospital like the Galveston Hospital that was built for about 78 patients, it is consistently running with loads up to 130 and above.

Mr. Fogarty. Well, it is a little worse than that, according to the maritime letter. They tell me the present constructed bed capacity is 79 and the hospital is now operating 160 beds.

Dr. Terry. It has vacillated, 130 to 160.

Mr. Fogarty. This represents an overoccupancy of 102 percent in terms of constructed bed capacity.

They are very much concerned about the conditions in the hospital at Galveston. But in San Francisco, we did see space available and you have doctors out there who want to do more work in research. I am just hoping that you will take another look at it and see if you cannot do something abut it.

Dr. Miller. Thank you, Mr. Chairman. That is perfectly correct. There is some space available, and as soon as we are able to get some additional research off the ground, we hope to utilize this space. We have plans to use it for this purpose.

We appreciate your interest in it very much.

CARVILLE HOSPITAL

Mr. **Fogarty.** Is everybody happy down in Carville? I have not had a complaint for 5 or 6 years.

Dr. **Miller.** Our program at Carville is progressing pretty well. As far as the construction at the hospital is concerned, we are well along on the development of our program plans for the hospital.

Mr. **Fogarty.** I thought you would be all finished by this time. What is holding you up?

Dr. **Miller.** Well, it has taken a certain amount of time to develop the plans and criteria that are necessary for the hospital and to meet all of the——

Mr. **Fogarty.** Have the living quarters been completed?

Dr. **Miller.** Yes, sir.

Mr. **Fogarty.** When will the hospital be completed?

Dr. **Miller.** I am not able to give you an exact date. We are hoping that the program plans will be completed in about 2 months from now. Our best estimate would be that if we are able to move along with the construction as we are now planning, it should be about 2 years.

Mr. **Fogarty.** How about the morale of your own people down there? At one time it was at a pretty low ebb, but I understand that is much better now.

Dr. **Miller.** Yes, sir. It has improved very markedly in the past few years.

Mr. **Fogarty.** Providing research funds for them helped, also?

Dr. **Miller.** Yes, sir. As you know, it was the Carville Hospital that first received research funds in our budget, by the assistance of this committee.

We have been receiving some research funds from the Institutes of Health and they are progressing very well with their program.

Mr. **Fogarty.** That is good.

Is there anything else you want to say?

Dr. **Miller.** No, sir, except we appreciate your interest in the program.

Mr. **Fogarty.** Thank you very much.

JUSTIFICATION MATERIAL

(Following is the justification material submitted to the committee:)

Hospitals and Medical Care

Amounts available for obligation

	1964	1965
Appropriation	$49, 962, 000	$52, 710, 000
Transfer to "Operating expenses, Public Buildings Service," General Services Administration	−5, 000	
Comparative transfer from "Salaries and expenses, Office of the Surgeon General"	34, 000	
Proposed transfer from "National Heart Institute" due to:		
Uniformed Services Pay Act, 1963	1, 232, 000	
Wage-board increases	99, 000	
Advances and reimbursements from:		
Other accounts	7, 788, 000	8, 504, 000
Non-Federal sources	563, 000	1, 209, 000
Total	59, 673, 000	62, 423, 000

Obligations by activity

Description	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Inpatient and outpatient care	6,765	$55,442,000	6,804	$58,095,000	+39	+$2,653,000
Coast Guard medical services	107	1,618,000	112	1,710,000	+5	+92,000
Operation of health units	132	1,072,000	132	1,068,000		−4,000
Personnel detailed to other agencies	23	341,000	23	350,000		+9,000
Payments to Hawaii		1,200,000		1,200,000		
Total obligations	7,027	59,673,000	7,071	62,423,000	+44	+2,750,000

Obligations by objects

	1964 estimate	1965 estimate	Increase (+) or decrease (−)
Total number of permanent positions	7,027	7,071	+44
Full-time equivalent of all other positions	121	121	
Average number of all employees	6,768	6,807	+39
Number of employees at end of year:			
Permanent positions	6,782	6,831	+49
Other	327	327	
11 Personnel compensation:			
Permanent positions	$39,783,000	$40,979,000	+$1,196,000
Positions other than permanent	745,000	758,000	+13,000
Other personnel compensation	1,318,000	1,222,000	−96,000
Total personnel compensation	41,846,000	42,959,000	+1,113,000
12 Personnel benefits	4,834,000	4,925,000	+91,000
21 Travel and transportation of persons	549,000	549,000	
22 Transportation of things	502,000	502,000	
23 Rent, communications, and utilities	1,154,000	1,159,000	+5,000
24 Printing and reproduction	122,000	122,000	
25 Other services	2,658,000	2,658,000	
Services of other agencies	776,000	1,200,000	+424,000
26 Supplies and materials	6,024,000	6,514,000	+490,000
31 Equipment	438,000	1,065,000	+627,000
41 Grants, subsidies, and contributions	1,210,000	1,210,000	
Subtotal	60,113,000	62,863,000	+2,750,000
Deduct quarters and subsistence charges	−440,000	−440,000	
Total obligations by object	59,673,000	62,423,000	+2,750,000

Summary of changes

1964 enacted appropriation	$49,962,000
Comparative transfer from "Salaries and expenses, Office of the Surgeon General"	34,000
Transfer to "Operating expenses, Public Buildings Service," General Services Administration (76 Stat. 728)	−5,000
Proposed transfer from "National Heart Institute" due to:	
Uniformed Services Pay Act, 1963	1,232,000
Wage-board increases	99,000
1964 estimated reimbursements	8,351,000
Total estimated obligations, 1964	59,673,000
1965 appropriation estimate	52,710,000
1965 estimated reimbursements	9,713,000
1965 estimated obligations	62,423,000
Total change	+2,750,000

Summary of changes—Continued

INCREASES

A. "Built-in":		
1. Annualization of 1964 costs due to Postal Service and Federal Employees Salary Act		$391,000
Inpatient and outpatient care	$382,000	
Coast Guard medical services	9,000	
2. Annualization of 1964 costs due to—Uniformed Service Pay Act		406,000
Inpatient and outpatient care	359,000	
Coast Guard medical services	35,000	
Operation of health units	3,000	
Personnel detailed to other agencies	9,000	
3. Annualization in 1965 of 2½ months' wage-board increases in 1964 (inpatient and outpatient care)		3,000
4. Net additional cost of within grades and incentive pay increases (inpatient and outpatient care)		299,000
5. Payments to employees' compensation fund (inpatient and outpatient care)		46,000
6. Minor repairs and improvements (formerly in the accounts of the General Services Administration)		853,000
Subtotal, built-in increases		1,998,000
B. Program increases:		
1. Inpatient and outpatient care:		
(*a*) Increase in equipment for enlarged facilities at 3 clinics ($311,000) and some replacement of backlog requirements ($323,000)		634,000
(*b*) Additional staff and related costs (39 positions)		272,000
(*c*) Increase in other objects, primarily in Federal hospitalization and supplies		48,000
Total		954,000
2. Coast Guard medical services: additional staff and supplies for the expanded facility at the Coast Guard Academy (5 positions)		48,000
Subtotal, program increases		1,002,000
Gross increases		3,000,000

DECREASES

1. Reduction in 1965 of wage-board increases funded last 9½ months in 1964 (inpatient and outpatient care)	−134,000
2. Nonrecurring cost of 1 less day's pay (impatient and outpatient care)	−109,000
3. Nonrecurring cost of equipment (operation of health units)	−7,000
Subtotal, decreases	−250,000
Total net change requested	2,750,000

EXPLANATION OF CHANGES

1. Inpatient and outpatient care

The 1965 estimate provides for 39 additional positions, equipment for expanded facilities at 3 outpatient clinics and for some equipment replacement items, for minor repairs and supplies, and for increased cost of civilian and military pay raises, and some wage board salary adjustments. Total increase amounts to $2,653,000.

2. Coast Guard medical services

An amount of $48,000 is requested to provide additional personnel and supplies in connection with the increase in size and program of the medical facility at the Coast Guard Academy. In addition, $44,000 is requested for annualization of the cost of civilian and military pay increases.

3. Operation of health units

A net decrease of $4,000 in this activity reflects an increase of $3,000 for annualization of the military pay raise offset by a decrease of $7,000 in equipment.

4. Personnel detailed to other agencies

An increase of $9,000 reflects the annualization of the military pay raise cost, effective October 1, 1963.

5. Payments to Hawaii

No change is forecast for this activity in 1965.

Explanations of transfers

	1964 estimate	1965 estimate	Purpose
Transfer to "Operating expenses, Public Buildings Service," General Services Administration.	−$5,000	------------	Transfer of rental costs for the outpatient clinic in San Diego, Calif.
Comparative transfer from "Salaries and expenses, Office of the Surgeon General."	+34,000	------------	Decentralization of the cost of accounting point activities.
Proposed transfer from:			
"National Heart Institute"	+1,232,000	------------	To cover costs of the Uniformed Services Pay Act of 1963.
Do	+99,000	------------	To finance mandatory wage board increases.
Transfer in the estimates from "Repairs and improvement of public buildings," General Services Administration.	------------	$853,000	Provide for minor repairs and improvements.

SIGNIFICANT ITEMS IN HOUSE AND SENATE APPROPRIATIONS COMMITTEE REPORTS

Item: 1964 Senate report, hospitals and medical care:	Action taken or to be taken:
"The committee is informed that the costs of minor repairs and supplies needed for maintenance of the hospitals are included in the budget of the General Services Administration. Sound management practice would appear to dictate that budgeting for minor repairs as well as major repairs and improvements should be the responsibility of the agency which operates the hospitals, rather than some other agency. The committee therefore expects that the 1965 estimate for this appropriation will include the amounts necessary for minor repairs and supplies for the PHS hospitals" (p. 29 of S. Rept. 383).	The 1965 budget estimate includes $853,000 for minor repairs and supplies. This was formerly funded by the General Services Administration appropriation.

Hospitals and medical care, Public Health Service

Year	Budget estimates to Congress	House allowance	Senate allowance	Appropriation
1955	$33,040,000	$33,000,000	$33,000,000	$33,000,000
1956	36,171,000	[1] 35,364,500	36,171,000	35,664,500
1957	40,346,000	[2] 38,070,000	40,270,000	40,195,000
1958	44,549,000	44,399,000	44,399,000	44,399,000
1959	47,587,000	[3] 46,900,000	50,900,000	50,624,000
1960	51,689,500	[4] 45,600,000	49,722,500	51,600,000
1961	52,434,000	56,023,000	56,023,000	56,023,000
1962	49,852,000	[5] 50,160,000	50,334,000	50,009,000
1963	51,514,000	51,477,000	48,820,000	48,820,000
1964	50,038,000	49,962,000	49,962,000	49,962,000
1965	52,710,000	------------	------------	------------

[1] Supplemental of $454,000 not considered by the House.
[2] Supplemental of $2,050,000 not considered by the House.
[3] Supplemental of $384,000 not considered by the House.
[4] Supplemental of $6,089,500 not considered by the House.
[5] Supplemental of $174,000 not considered by the House.

INTRODUCTION

Inpatient and outpatient care

There are 15 hospitals and 141 outpatient facilities providing medical care for approximately 400,000 persons who are legal beneficiaries of the Public Health Service. The major beneficiary groups are American seamen, coastguardsmen, and their dependents, and civilian employees of the Federal Government injured in performing their work. Patients with leprosy and narcotic drug addicts, as defined by Federal law, are also cared for. In addition, medical care is furnished, on a reimbursable basis, to foreign seamen and beneficiaries of other Federal agencies.

Provision is made for reimbursements to the State of Hawaii for the care of patients with leprosy in the Hawaiian Islands. Services are also provided for Federal employees under the Federal employee health program.

The largest segment of the mission of the Division of Hospitals is the operation of 12 general, medical, and surgical hospitals. As a result of improved patient care arising through prompt diagnosis and more efficient and concentrated care, the average length of stay for patients in these general hospitals has been reduced from 23 days in 1958 to 19 days in 1963.

The hospitals and medical care program performs a wide range of beneficial services and functions in addition to its primary purpose of providing medical care for the previously mentioned groups. This program plays a major role within the Service in the recruitment and training of physicians, dentists, nurses, and other types of health personnel. Many of the key positions in the Public Health Service are occupied by personnel recruited and trained in the Division's hospitals and clinics.

The Division also represents a vital source in supplying professional personnel to other departments of the Government including the U.S. Coast Guard, Bureau of Prisons, Coast and Geodetic Survey, etc.

Current examples of other servicewide contributions attributable to the Division of Hospitals include: (*a*) Collaboration in emergency health planning with the Division of Health Mobilization; (*b*) collaboration in development of hospital standards with the Division of Hospital and Medical Facilities; (*c*) collaboration with the National Institutes of Health in various research projects; (*d*) participation with the Division of Chronic Diseases in providing training and experience in conducting detection surveys—cancer and diabetes.

Conduct of research will continue to be an indispensable phase of the hospital program. Research units are located at the Baltimore, New Orleans, San Francisco, Seattle, Staten Island, and Carville Hospitals.

In summary, these collateral functions and services of the hospitals and medical care program are of prime significance to the Service, Department, and the Nation, and must be considered together with its direct medical care program.

Coast Guard medical services

The major problem of the Coast Guard program is the provision of adequate medical and dental care to personnel widely dispersed in numerous small units many of which are geographically and medically isolated.

The problem is being met by the care provided in the hospitals and clinics of the Division. In addition, full-time medical, dental, and ancillary staff are assigned where there are sufficient concentration of personnel to make the operation of such facilities more economical to the Government. Small concentrations of personnel are provided medical and dental services by local contract physicians and dentists. Emergency hospitalization is also provided by contract where Government facilities are not available.

Other programs

This appropriation also covers the operation of Federal employee health programs which are almost entirely reimbursable, reimbursable details of Public Health Service officers to other agencies, and is the vehicle for payments for care of leprosy patients in the State of Hawaii.

1. Inpatient and outpatient care

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	6,765	$44,441,000	6,804	$45,559,000	+39	+$1,118,000
Other expenses		11,441,000		12,976,000		+1,535,000
Subtotal	6,765	55,882,000	6,804	58,535,000	+39	+2,653,000
Deduct quarters and subsistence charges		−440,000		−440,000		
Total	6,765	55,442,000	6,804	58,095,000	+39	+2,653,000
Reimbursable obligations		−6,985,000		−8,335,000		−1,350,000
Direct obligations		48,457,000		49,760,000		+1,303,000

This activity provides funds for the inpatient and outpatient care operations of the Division and a portion of the cost of the Office of the Chief, Bureau of Medical Services.

Mandatory increases account for $1,942,000 of this total including $853,000 for minor repairs and improvements of the hospital buildings which were formerly funded in the accounts of the General Services Administration.

An increase of $933,000 will provide 36 added employees and other expenses to cover our most critical needs for medical care personnel who will furnish care for an increased patient load in the general hospitals. An increase of $634,000 in equipment will provide for expansion of clinic facilities at New York, Honolulu, and San Diego, with $323,000 of this increase to be used to provide funds toward reduction of a backlog, which as of July 1, 1963, amounted to over $4 million of replacement and additional equipment needs.

Decreases of $243,000 serve as an offset to the increases above.

The 1965 estimate also provides for an increase of three positions and $29,000 for personnel compensation and benefits in the Office of the Bureau Chief. Included in this amount is $8,000 for mandatory increases for existing staff. These positions are to strengthen the headquarters personnel function transferred in 1964 to this office and will permit the Bureau to do a more effective personnel management job in the area of training, employee utilization, recruitment, and placement with respect to the 14,000 employees of the Bureau.

Change in funding

The 1965 estimates propose a change from a direct appropriation to a reimbursable basis of the patients admitted to the hospitals under the provisions of section 301 of the Public Health Service Act for special study. Special study patients are admitted to supply clinical material for (*a*) research and training of hospital division personnel; (*b*) cooperative research programs with NIH; (*c*) studies financed by NIH to principal investigators on the staff of the hospital; and (*d*) collaborative research with universities. Charges will be made at the rate of $40 per day for an average daily patient load of 82. The total funding supplied by this change amounts to $1,197,200.

Workloads and reimbursements for 1963, 1964, and 1965

The two following tables summarize our patient care workloads by type of facility and by beneficiary class. These are followed by a table which gives the sources, unit rates, workloads, and total funds received for reimbursable activities under this appropriation.

Average daily patient load, admissions, and outpatient visits by type of facility

	Hospitals				Out-patient clinics	Out-patient offices
	General	Neuro-psychi-atric	Lepro-sarium	Total		
Average daily patient load:						
1963	2,521	1,864	308	4,693	----------	----------
1964	2,559	1,829	310	4,698	----------	----------
1965	2,580	1,794	310	4,684	----------	----------
Admissions:						
1963	48,561	3,677	108	52,346	----------	----------
1964	49,721	3,646	109	53,476	----------	----------
1965	49,950	3,590	109	53,649	----------	----------
Outpatient visits:						
1963	731,358	5,212	2,173	738,743	545,029	58,531
1964	770,000	5,000	2,500	777,500	562,400	60,000
1965	794,000	5,500	3,100	802,600	583,500	61,000

Average daily patient census by beneficiary group

	Actual, 1963	Estimate, 1964	Estimate, 1965
All beneficiaries [1]	4,693	4,698	4,684
Nonreimbursable	3,945	3,951	3,882
American seamen	1,761	1,756	1,756
Narcotic addicts	1,314	1,310	1,316
Patients with leprosy	312	312	312
Coast Guard	263	280	290
Bureau of Employees' Compensation	160	159	159
Special study	86	84	--------------
Other	49	50	49
Reimbursable	748	747	802
Special study	--------------	--------------	82
Veterans	254	235	195
Immigrants	1	1	1
Department of Defense	137	137	138
Foreign seamen	34	30	30
Dependents	271	292	304
Other	51	52	52

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[1] Excludes newborn.

Comparative statement of reimbursements

	Actual, 1963			Estimate, 1964			Estimate, 1965		
	Average daily load	Rate per day	Amount	Average daily load	Rate per day [1]	Amount	Average daily load	Rate per day	Amount
Public Health Service hospitals other than neuropsychiatric hospitals:									
Special study							82	$40.00	$1,197,200
Veterans	19	$25.00	$173,575	20	$25.00	$183,000	20	26.00	190,000
Foreign seamen	34	36.00	442,224	30	38.50	422,700	30	40.00	438,000
Immigration	1	25.00	9,925	1	25.00	9,200	1	26.00	10,000
Indians	16	25.00	145,850	17	25.00	155,600	17	26.00	161,300
Department of State, dependents	2	36.00	21,456	2	38.50	28,200	2	40.00	29,000
Other (including emergency)	20	([2])	192,932	23	25.00	210,500	23	26.00	218,200
Department of Defense:									
Armed Forces	108	25.00	981,450	107	25.00	979,100	108	26.00	1,025,000
Dependents	184	36.00	2,412,540	200	38.50	2,818,200	208	40.00	3,036,800
Coast Guard, U.S. Public Health Service and Coast and Geodetic Survey:									
Dependents	83	1.75	53,195	87	1.75	55,700	91	1.75	58,100
Officers			15,945			17,700			18,000
Outpatient visits			94,185			97,000			97,000
Miscellaneous (including details with Public Health Service)			428,979			660,000			660,000
Total, Public Health Service hospitals other than neuropsychiatric hospitals	467		4,972,256	487		5,636,900	582		7,138,600
Total, neuropsychiatric hospitals (see table below)	281		1,325,548	260		1,345,100	220		1,193,400
Total, operation of hospitals	748		6,297,804	747		6,982,000	802		8,332,000
Other, inpatient and outpatient care			1,065			3,000			3,000
Subtotal, inpatient and outpatient care			6,298,869			6,985,000			8,335,000
Operation of health units			852,851			1,025,000			1,028,000
Personnel detailed to other agencies			303,908			341,000			350,000
Total, all reimbursements			7,455,628			8,351,000			9,713,000

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[1] $38.50 average rate. The actual rate was $37 through Sept. 30, 1963, and $39 for remainder of year.

[2] Includes 7,592 days, at $25, equals $189,800; 87 days, at $36, equals $3,132.

Comparative statement of reimbursements, neuropsychiatric hospitals

	Actual, 1963			Estimate, 1964			Estimate, 1965		
	Average daily load	Rate per day	Amount	Average daily load	Rate per day	Amount	Average daily load	Rate per day	Amount
Neuropsychiatric hospitals (Forth Worth and Lexington):									
Veterans	235	$13.00	$1, 114, 308	215	$14. 25	$1, 121, 300	175	$15. 00	$958, 200
Department of Defense:									
Armed Forces	29	13. 00	136, 877	30	14. 25	156, 500	30	15. 00	165, 000
Dependents	1	13. 00	7, 969	2	14. 25	10, 400	2	15. 00	11, 000
Voluntary pay addicts	4	9. 50	15, 562	4	9. 50	13, 900	4	9. 50	14, 000
Other (including immigration)	11	13. 00	49, 894	8	14. 25	41, 700	8	15. 00	44, 000
Coast Guard, U.S. Public Health Service, and Coast and Geodetic Survey:									
Officers		1. 00	477			600			600
Dependents	1	1. 75	461	1	1. 75	700	1	1. 75	600
Total, neuropsychiatric hospitals	281		1, 325, 548	260		1, 345, 100	220		1, 193, 400

2. *Coast Guard medical services*

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	107	$1,144,000	112	$1,218,000	+5	+$74,000
Other expenses		474,000		492,000		+18,000
Total	107	1,618,000	112	1,710,000	+5	+92,000
Reimbursable obligations						
Direct obligations		1,618,000		1,710,000		+92,000

This estimate applies to medical services for the Coast Guard aboard their vessels and at their shore stations. Not included are costs funded by the Coast Guard such as space, utilities, medical and dental equipment, mobile dental units, furniture, office appliances, pay allowances, and travel of Coast Guard personnel assigned to the program, etc.

During fiscal year 1964 renovation and expansion of the Coast Guard Academy infirmary will be completed. This will result in a marked improvement of outpatient and general supporting facilities and in an increase of bed capacity from 35 beds to 55 beds. This medical facility, although officially called an infirmary, has been accredited by the Joint Commission on Accreditation of Hospitals and has also been designated as a uniformed services medical facility for the care of dependents and retired personnel in addition to the care of cadets and active duty personnel. This renovation and expansion results in a need for an increase in professional staffing to provide the initial additions to staffing and supplies for this expanded facility.

The budget provides for an increase of $92,000 and five positions over 1964 for the following items:

(*a*) Personnel compensation and benefits:	
Annualization of the civilian pay increase	$9,000
Annualization of the military pay increase	35,000
(*b*) Program increases:	
5 nurse positions and related costs	30,000
Additional medical and dental supplies	18,000
Total	92,000

3. *Operation of health units*

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	132	$767,000	132	$770,000		+$3,000
Other expenses		305,000		298,000		−7,000
Total	132	1,072,000	132	1,068,000		−4,000
Reimbursable obligations		1,025,000		1,028,000		+3,000
Direct obligations		47,000		40,000		−7,000

Funds under this activity provide for the operation of employee health programs as authorized by 5 U.S.C. 150. The funds for the operation of health units are provided primarily on a reimbursable basis as services are requested by other Federal agencies and furnished by the Public Health Service.

The net decrease in 1965 of $4,000 reflects an increase of $3,000 for annualization of the pay raise which is offset by a decrease of $7,000 in nonrecurring equipment.

4. Personnel detailed to other agencies

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	23	$328,000	23	$337,000		+$9,000
Other expenses		13,000		13,000		
Total	23	341,000	23	350,000		+9,000
Reimbursable obligations		341,000		350,000		+9,000
Direct obligations						

This activity is completely reimbursable. Funds provide for Public Health Service personnel who are detailed to other Federal agencies. Other objects of expense are also provided on a reimbursable basis when authorized by law.

The increase of $9,000 is for the annualization of the military pay raise, effective October 1, 1963.

5. Payments to Hawaii

	1964 estimate	1965 estimate	Increase (+) or decrease (−)
Grants, subsidies, and contributions	$1,200,000	$1,200,000	

Funds under this activity are for payments to the State of Hawaii for care and treatment of persons afflicted with leprosy as authorized and directed by 42 U.S.C. 255. Since this activity was authorized in 1953 by the Congress, the State of Hawaii has been unable to fully meet the total expenditures from the funds which have been appropriated. No increase is requested in 1965.

The table below shows the estimated patient days per diem cost, average daily patient load, appropriation, and requirements for 1964 and 1965. It should be noted that reimbursement is based on actual expense so that the requested amount will not be paid out unless it is actually earned.

	Estimate 1964	Estimate 1965
Average daily patient load	266	263
Patient days	97,356	95,995
Per diem cost	$15.27	$15.70
Total cost	$1,487,074	$1,506,662
Less reimbursements (received primarily for veterans patients)	4,304	4,292
Net requirement	1,482,770	1.502,370
Appropriation request	1,200,000	1,200,000

New positions requested, fiscal year 1965

	Grade	Annual salary
Inpatient and outpatient care:		
Utilization and training officer	GS-13	$11,731
Recruitment and placement officer	GS-12	9,984
Dietician	GS-9	7,030
2 physical therapists	GS-8	12,812
6 medical staff technicians	GS-7	34,818
8 nurses	GS-6	41,936
Dental assistant	GS-5	4,701
Clerical assistant	GS-4	4,222
2 nursing assistants	GS-3	7,780
Grades established by act of July 1, 1944 (42 U.S.C. 207):		
Senior Grade		10,800
13 full grades		126,664
2 senior assistant grades		12,480
Total (39)		284,958
Coast Guard medical services: 5 nurses	GS-7	29,015
Total new positions, all activities (44)		313,973

FOREIGN QUARANTINE ACTIVITIES

WITNESSES

DR. JAMES G. TELFER, CHIEF, DIVISION OF FOREIGN QUARANTINE
DR. RAY H. VANDERHOOK, DEPUTY CHIEF, DIVISION OF FOREIGN QUARANTINE
RALPH E. RIGGS, DIVISION BUDGET OFFICER
DR. JAMES V. LOWRY, CHIEF, BUREAU OF MEDICAL SERVICES
DR. LEO J. GEHRIG, DEPUTY CHIEF, BUREAU OF MEDICAL SERVICES
DR. LUTHER L. TERRY, SURGEON GENERAL
HARRY L. DORAN, CHIEF FINANCE OFFICER
JAMES F. KELLY, DEPARTMENT BUDGET OFFICER

Object classification

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
PUBLIC HEALTH SERVICE			
11 Personnel compensation:			
Permanent positions	4,281	4,690	4,879
Positions other than permanent	40	50	55
Other personnel compensation	257	264	245
Total personnel compensation	4,578	5,004	5,179
12 Personnel benefits	416	456	456
21 Travel and transportation of persons	180	188	185
22 Transportation of things	83	97	88
23 Rent, communications, and utilities	119	159	164
24 Printing and reproduction	32	32	32
25 Other services	325	429	628
26 Supplies and materials	119	121	124
31 Equipment	58	67	50
42 Insurance claims and indemnities	3		
Subtotal	5,912	6,553	6,906
Deduct quarters and subsistence charges	23	13	13
Total, Public Health Service	5,889	6,540	6,893
ALLOCATION TO DEFENSE—CIVIL, ARMY			
25 Other services: Defense—Civil, Corps of Engineers	120		
Total obligations	6,010	6,540	6,893

Personnel summary

	1963 actual	1964 estimate	1965 estimate
Total number of permanent positions	668	694	698
Full-time equivalent of other positions	12	12	12
Average number of all employees	643	665	669
Employees in permanent positions, end of year	623	650	654
Employees in other positions, end of year	25	26	26
Average GS grade	8.3	8.4	8.4
Average GS salary	$7,148	$7,565	$7,565
Average salary of ungraded positions	$4.941	$4,963	$4,930

Program and financing

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
Program by activities:			
Quarantine and visa medical examination activities (program costs, funded) [1]	5,881	6,540	6,893
Change in selected resources [2]	129		
Total obligations	6.010	6,540	6,893
Financing:			
Comparative transfer from other accounts		−7	
Unobligated balance brought forward	−171		
Unobligated balance lapsing	71		
New obligational authority	5,910	6,533	6,893
New obligational authority:			
Appropriation	5,910	6,456	6,893
Proposed transfer from "National Heart Institute" due to Uniformed Services Pay Act of 1963		77	

[1] Includes capital outlay as follows: 1963, $178,000; 1964, $67,000; 1965, $84,000.

[2] Selected resources as of June 30 are as follows:

	1962	1963 adjustments	1963	1964	1965
Stores	6		7	7	7
Unpaid undelivered orders	87	−23	192	192	192
Total selected resources	93	−23	199	199	199

Proposed for separate transmittal:

FOREIGN QUARANTINE ACTIVITIES

Program and financing

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
Program by activities: Quarantine and visa medical activities (costs—obligations)		31	
Financing: New obligational authority (proposed transfer from National Heart Institute)		31	

Mr. FOGARTY. Are you ready, Dr. Telfer?

Dr. TELFER. Yes.

Mr. FOGARTY. Go right ahead.

General Statement

Dr. Telfer. Mr. Chairman and members of the committee, we have submitted a statement and, with your permission, I would like to summarize it.

Mr. Fogarty. Go right ahead.

Dr. Telfer. The Division of Foreign Quarantine guards the Nation against the introduction of disease from abroad. The Division inspects travelers, conveyances, and certain imports at U.S. ports of entry and, when necessary, applies health controls to prevent the importation or spread of disease. The Division also conducts medical examinations of visa applicants at U.S. consulates and medical inspections of aliens at ports of entry to detect diseases or conditions excludable under immigration law.

The quarantinable diseases, the Division's major concern, are louse-borne typhus, louse-borne relapsing fever, cholera, plague, yellow fever, and smallpox. Every day 100,000 persons are cleared through quarantine. Of this number, 1,000 are arriving shortly after leaving countries where the quarantinable diseases are present. Despite this ever-present threat, the United States has not had an outbreak of quarantinable disease known to have been introduced from abroad for the past 16 years.

Several incidents in 1963 underscored the danger that confronts the United States. Smallpox was imported by travelers into Sweden and Poland, where it caused serious outbreaks, and into Switzerland and East Berlin, where there were no secondary cases. Cholera continued to spread in Asia and the western Pacific; several cases were imported into Japan, but quarantine officials there detected and isolated them in time to prevent an outbreak. Typhoid fever and dengue fever were imported into the United States, but effective control measures prevented them from spreading. Rabies is an increasingly serious public health problem along the United States-Mexico border.

A multiple screening program established by the four Federal inspectional agencies along the Mexican border in the spring of 1963 has increased the percentage of border crossers inspected for quarantine purposes to almost 100 percent.

In 1963 the Public Health Service medically examined over 187,000 visa applicants. Of these, 1,900 had excludable conditions and 18,500 had conditions which might have affected their ability to earn a living. Fees collected from visa applicants make this program self-supporting.

About 130,000 other visa applicants were examined by local physicians designated by the Department of State. Present plans call for conversion from the designated physician system to a system of contract physicians under the control and supervision of the Public Health Service.

An amount of $6,893,000 is recommended—a net increase of $322,000 over 1964. Mandatory requirements account for $188,000 of the increase and program increases for $202,000. Decreases of $68,000 offset part of these increases.

Establishment of New Medical Examination Facilities

The program increase will provide for four positions and the establishment of one new medical examination facility, in addition to contractual arrangements at five locations. This arrangement will result in greater quality control of the medical examinations.

That concludes the summarization, Mr. Chairman. I will be pleased to answer any questions on the program.

Mr. FOGARTY. All right, Doctor.

Where are these five locations?

Dr. TELFER. The five locations, sir, for contract arrangements for examination of these applicants, are Bogotá, Buenos Aires, Genoa, Madrid, and Tel Aviv.

OFFICE IN MANILA

Mr. FOGARTY. What about Manila?

Dr. TELFER. Manila, sir, is a location where we are presently establishing a Public Health Service office for examination of the applicants.

Mr. FOGARTY. Are you familiar with the correspondence that Congressman Jensen sent to me a few days ago?

Dr. TELFER. No, sir.

Mr. FOGARTY. Have you had correspondence with Dr. Dill from Manila?

Dr. TELFER. Yes.

Mr. FOGARTY. He apparently has written to you and to Congressman Jensen, and Congressman Jensen sent this information to me. His note to me was:

> Please note enclosed letter to me from Dwight Dill, M.D., Manila, Philippines, along with a copy of his letter to Dr. James Telfer and Telfer's reply, which I feel you and your committee should have and duly consider.
>
> Respectfully yours,
>
> BEN F. JENSEN.

I read these in my office the other night and he makes some pretty strong charges in here as an individual physician.

In his letter to you, dated in February of this year, the second paragraph I think sums it up fairly well:

> I thought I made it clear in my letter of December 23, 1963, the primary objection I raised to your establishing a U.S. Public Health examining station in Manila is the fact you will be depriving me of an appreciable portion of my income. This portion, as well as the remainder of my practice, has been built up over a long number of years in the Philippines permitting me to be the only remaining American physician in the Philippines who is presently in the private practice of medicine. Your deprivation of me of this income will result in a substantial dislocation of my practice as well as monetary damages through the loss of remuneration upon which it has been possible for me to practice medicine in the Philippines. Your unilateral and adamant decision to place the Public Health Service and therefore the U.S. Government in direct competition with an American physician in the private practice of medicine is particularly incomprehensible as there is absolutely no need for such a move on your part. As you admitted in your letter, there is no substantial basis for your establishing an examining station in Manila other than the fact that you entertain an "envisioned need and with the concurrence of the Department of State."

Mr. FOGARTY. This is pretty strong language. Now you have the floor. You can answer it as strongly as you want to.

CRITERIA FOR ESTABLISHING EXAMINING UNITS ABROAD

Dr. TELFER. Mr. Chairman, the decision to establish a Public Health Service examining unit in a particular city is based both on our general reasons why we favor the Public Health Service unit over any local arrangement, and upon specific reasons in a particular locality.

In general, through our visits to many localities where examinations are conducted by a panel of physicians, through our knowledge of our own system of examinations which we control very closley and through seeing the result of the work done by these different kinds of examiners, we feel very strongly that, in general, a medical examination which will meet the responsibilities of the U.S. Government and be most fair to the applicant, can best be done in a Public Health Service examination unit.

In general, we would much prefer to have these medical examinations for purposes of granting a visa performed by Public Health Service personnel.

Now, also in general, we work, of course, with the Department of State and the Immigration Service in this matter. Both of those agencies have gone on record as generally favoring the establishment of Public Health Service facilities for performing these examinations. The Department of State, in particular, has many problems in localities where they use the panel of physicians and they are asking us to make changes away from their panels that we have no responsibility for and do not control, or actually supervise, to a system where the Public Health Service will be directly involved.

Our long-range program over the next several years is aimed in this direction, for the Public Health Service to take a greater share of responsibility for the examinations.

SITUATION IN MANILA

Now, in particular localities, such as Manila, there we visit the Department of State people on the spot, we meet the panel—they presently have a panel of physicians in Manila. We meet the physicians, talk to them, review some of their work, and evaluate the whole situation, in order to determine whether this is a place where we should set up a new unit.

We have done this in Manila. They presently have more than 12, I believe, doctors on their panel, including Dr. Dill.

I met Dr. Dill. He is a very nice gentleman to meet socially and talk to; and he has come also to my office here, and he has talked this over on a friendly basis. His reputation is that he is a good businessman in the business of medicine in Manila. He has an organization in which he employs other physicians to work for him. He does not do all of his medical work himself, but he does have quite an organization there. He is involved with contractual arrangements to examine laborers going from that area to other parts of the Far East, and possibly he does have prospects of losing some of his established business by a change. However, presently the understanding is that his organization has only a fair share of the work that is done by the panel of a dozen or more physicians.

He has tried to persuade the Department of State to allow him to control their whole panel system and for them to send everyone for examination to him, and then he would take care of sending these applicants to various panel members and he would handle the whole thing on a business basis for the Department of State.

The Department of State people in Manila are dissatisfied with their panel, and they are very anxious for us to go in and set up our unit as rapidly as possible.

Perhaps the best indication of this is that in spite of their great shortage of space in the Embassy compound, they are actually moving out some of the occupants of offices in the Embassy compound and making room for us.

Mr. Fogarty. Have you had some bad experiences as a result of the examinations in Manila? Or has the State Department experienced some of this?

Dr. Telfer. They have been dissatisfied with results.

Mr. Fogarty. Do you have any examples of what has happened that caused dissatisfaction?

Dr. Telfer. For instance, there was one applicant who was about a 23-year-old young man who was given a diagnosis of congenital heart disease, which would be a class B condition, which might interfere with his ability to earn a living, and thus interfere with his obtaining a visa. This diagnosis was not supported by anything in that particular record in the way of X-ray findings or physical signs of record. And yet the examiner had made a recommendation that, because of the danger of this heart disease, the young man should have his tonsils removed before he be given a visa, so that he would have less chance of developing cardiac complications which may follow from streptococcal sore throat.

Mr. Fogarty. Was he referred to the contracting physicians?

Dr. Telfer. I do not have any information on this point.

We also saw a family of Filipinos that had been judged excludable under the designation "feeblemindedness," and Dr. Valle, who is our doctor in charge in the western Pacific area, and I examined this family together, and we concluded each and independently, and together, that this was a family that represented cultural backwardness. They were from the barrios up in the mountainous area, and we did not believe they were feebleminded at all. There was no real evidence to make that designation, and they were wrongly being held back.

Now, as far as cases that are being passed that should not be passed, we have had complaints of some cases of tuberculosis coming into this country that should not have. However, this is something I cannot use as evidence in a matter like this, because this is involved with these people having already arrived and the health department saying that some of them have tuberculosis; but the health department has not wished to let us know the names or specifics regarding these people, because they say they will lose their health department relationship with their public. We have not been able to pin down just where these people came from and when and what doctor examined them. But this is a possibility.

Mr. Fogarty. Have there been any problems of these doctors taking money to pass someone who should not have been passed?

Dr. Telfer. We have no knowledge of dishonesty.

Dr. Lowry. There is a situation there that is an interesting one. Under a panel of physicians, there is a patient-physician relationship because the patient, the person being examined, hires the doctor and pays him to do the examination. He can charge any fee he wishes.

This is a different kind of relationship than when the Government physician is examining the individual in the interest of the Government and he pays a flat fee of $10, which is collected by the State Department.

Mr. Fogarty. I think this doctor said this is about the usual fee in here, $10, did he not? He would enter into a contract for a fee of $10? I do not see it right now, but I believe it is in there.

Dr. Telfer. Yes, sir. The fee they are collecting now is more than $10; I think it is around $15. And possibly one doctor, to develop a business in this matter, would be willing to start at a low fee. But we would not like to find ourselves in a position where we have one private contractor controlling this whole thing, then losing our control over the whole matter, including the fees.

Mr. Fogarty. Is there anything else you want to say on this?

Dr. Lowry, is there anything else you want to say on this particular problem?

Dr. Lowry. There is no question that if we start doing examinations, he will lose some money. They would do a few less than now, the whole panel altogether.

I object to him stating he is an American physician practicing medicine, as if this were America. He is practicing in the Philippines. We have the responsibility to see that our Government has a proper and good examination for these people. We are convinced by past experience, the best examinations—with one exception, in Dublin—are done by our own people or people we hire.

I mentioned the one in Dublin because there is a place where there is one group that has an excellent clinic. It is true they charge $14 for their examination, or $13, but they are doing a fine job. But there appears to be a relationship between climate and the quality and the integrity of the examinations. The hotter the climate, the less reliability there seems to be on the examination done.

Mr. Fogarty. Is that generally true throughout the world?

Dr. Lowry. This is what I mean; in the southern parts, we have more problems.

Mr. Fogarty. Does anybody else want to say anything?

Dr. Terry. No, sir. I do not want to say anything more.

INTERNATIONAL TRAVEL OF RETARDED CHILDREN

Mr. Fogarty. Doctor, 2 or 3 weeks ago, I was talking to some people from Canada who are interested in problems of mentally retarded, not mentally ill but mentally retarded. They were talking about the feasibility of this country and Canada getting together and allowing retarded children to enter Canada, and vice versa.

After that, I received a letter from a person in a South American country who had a child that needed some medical attention but was retarded and could not be brought into this country.

Now I have received another letter, just about the same time, from a friend of mine in Baltimore who has a retarded boy who attempted to take him into Canada a short time ago, and they are unable to cross the line.

I have been thinking of suggesting an amendment to the immigration law that would allow these people to come in and out of this country.

In the case of Canada, they write for permission and they get a letter back from our people, the State Department or Immigration Service, that the child "is an idiot." Well, many parents do not like that expression—and I do not blame them.

I have talked to some doctors and they think that this is too stringent and some leeway should be allowed in visits of retarded children. It could go so far as a whole family planning to come in from Europe; say a scientist that this country could use, and he might have five or six children, one a retarded child, and this country would say, "OK, we will take everybody but leave the retarded child home." It is that bad.

It seems to me something ought to be worked out. It is not an infectious disease.

Dr. TERRY. Mr. Chairman, I think Dr. Lowry might be in a better position to comment on that if you would like.

Mr. FOGARTY. I asked someone in Immigration to draft a suggested amendment and have Dr. Terry look at it.

I want to get some advice on it first, but I was thinking of putting it in next week. If it would do what I think it would.

Dr. LOWRY. This is a very serious problem and one we have been trying to find some solution to for a number of years. In the majority of instances we have problems with servicemen who marry ladies with children overseas. One is defective, and they want to come to the United States.

The way the law is now written, a visa cannot be obtained for the defective child. A proposal is currently being considered that would permit entry into the country of individuals who are defective, epileptic, or who have history of psychosis, all of whom are now mandatorily excludable. The Service commented on this proposal and suggested a mechanism permitting these individuals to come in with assurances that they would get proper care and treatment after they get here without becoming public charges. There is a good bit of interest in this area in terms of mental deficiency, mentally ill, and the epileptic in particular.

If you would like, we would be glad to give you a copy of the comments.

Dr. TERRY. I have it. I left that at the office, because I wanted some of the people to do some staff work on it.

As I recall, the President's Panel on Mental Retardation had some comments on this, particularly with relation to mental retardants having difficulty crossing our borders, and especially Canada.

I know that Dr. Staf Warner, the Special Assistant to the President for Mental Retardation, has had a great deal of interest in this. I I think that we can be able to give you a good background of information on it.

Dr. LOWRY. There is one thing that puzzles me. Unless I am mistaken, these people can come in under the present immigration law if they are coming here for medical treatment that is not available in their own country.

Dr. TELFER. Temporary basis.

Dr. LOWRY. Temporary; yes. For a visit.

Mr. Fogarty. For visits, too?

Dr. Lowry. Yes; for a visit for medical care.

Mr. Fogarty. This person in Canada, they write back and say, "No, he is an idiot." I have heard that two or three times during the last few weeks.

Dr. Lowry. I should make myself clear; the visit is for the purpose of getting the individual medical care that is not available.

Mr. Fogarty. But not just for a visit.

Dr. Lowry. I do not believe there is any way this can be done presently.

Mr. Fogarty. Off the record.

(Discussion off the record.)

Mr. Fogarty. Do you have anything else you want to say, Doctor?

Dr. Telfer. No, sir.

Mr. Fogarty. Thank you very much.

That concludes our hearing today. We will come back at 10 o'clock Tuesday morning.

JUSTIFICATION MATERIAL

(Following is the justification material submitted to the committee:)

Foreign Quarantine Activities

Amounts available for obligation

	1964	1965
Appropriation	$6,456,000	$6,893,000
Comparative transfer from "Salaries and expenses, Office of the Surgeon General"	7,000	
Proposed transfer from "National Heart Institute" due to—		
Uniformed Services Pay Act, 1963	77,000	
Wage board increases	31,000	
Total	6,571,000	6,893,000

Obligations by activity

Description	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Examination of aliens and quaratine inspection at U.S. ports	539	$4,834,500	539	$4,971,000		+$136,500
Examination of visa applicants in foreign countries	128	1,462,900	132	1,642,100	+4	+179,200
Administration	27	273,600	27	279,900		+6,300
Total obligations	694	6,571,000	698	6,893,000	+4	+322,000

Obligations by objects

	Estimated, 1964	Estimated, 1965	Increase (+) or decrease (−)
Total number of permanent positions	694	698	+4
Full-time equivalent of all other positions	12	12	
Average number of all employees	665	669	+4
Number of employees at end of year:			
Permanent positions	650	654	+4
Other	26	26	
11 Personnel compensation:			
Permanent positions	$4,720,500	$4,878,500	+$158,000
Positions other than permanent	50,000	55,000	+5,000
Other personnel compensation	264,500	245,500	−19,000
Total personnel compensation	5,035,000	5,179,000	+144,000
12 Personnel benefits	456,000	456,000	
21 Travel and transportation of persons	188,000	185,000	−3,000
22 Transportation of things	97,000	88,000	−9,000
23 Rent, communications, and utilities	159,000	163,500	+4,500
24 Printing and reproduction	32,000	32,000	
25 Other services	429,000	628,000	+199,000
26 Supplies and materials	121,000	124,500	+3,500
31 Equipment	67,000	50,000	−17,000
Subtotal	6,584,000	6,906,000	+322,000
Deduct quarters and subsistence charges	−13,000	−13,000	
Total obligations by object	6,571,000	6,893,000	+322,000

Summary of changes

1964 enacted appropriation		$6,456,000
Comparative transfer from "Salaries and expenses, Office of Surgeon General"		7,000
Proposed transfer from "National Heart Institute" due to:		
Uniformed Services Pay Act, 1963		77,000
Wage board increase		31,000
Total estimated obligations, 1964		6,571,000
1965 estimated obligations		6,893,000
Total change		+322,000

INCREASES

"Built in":		
1. Annualization of 1964 costs due to Postal Service and Federal Employees Salary Act		71,000
Examination of aliens and quarantine inspection at U.S. ports	$65,000	
Examination of visa applicants in foreign countries	2,000	
Administration	4,000	
2. Increased cost of civil service employees within grades, longevities, and incentive pay for commissioned officers		37,000
Examination of aliens and quarantine inspection at U.S. ports	$33,700	
Examination of visa applicants in foreign countries	1,900	
Administration	1,400	
3. Annualization of 1964 costs due to Uniformed Services Pay Act		36,000
Examination of aliens and quarantine inspection at U.S. ports	$10,500	
Examination of visa applicants in foreign countries	24,300	
Administration	1,200	

Summary of changes—Continued

INCREASES—continued

"Built in"—Continued		
4. Minor repairs and improvements		$44,000
Examination of aliens and quarantine inspection at U.S. ports	$44,000	
Subtotal, "built in"		188,000

PROGRAM INCREASES

1. Medical examination of visa applicants (4 positions)		202,000
Examination of visa applicants in foreign countries (4 positions)	$202,000	
Subtotal, program increases		202,000
Gross increases		390,000

DECREASES

1 less day's pay in 1965		−19,000
Examination of aliens and quarantine inspection at U.S. ports	−$16,200	
Examination of visa applicants in foreign countries	−2,500	
Administration	−300	
Nonrecurring cost of equipment, and transfer costs		−49,000
Examination of aliens and quarantine inspection at U.S. ports	−$500	
Examination of visa applicants in foreign countries	−48,500	
Subtotal, decreases		−68,000
Total net change requested		+322,000

EXPLANATION OF CHANGES

"Built-in" increases.—The requested increase of $188,000 will provide for $37,000 in mandatory increases for current personnel on duty, $107,000 for anualization of pay cost increases, and $44,000 for minor repairs and improvements formerly funded in the accounts of the General Services Administration.

Medical examination of visa applicants.—An increase of four positions and $202,000 is requested to improve visa medical examinations. Four positions and $59,000 will be applied to establishing a new medical examination facility in Tokyo, Japan. An increase of $143,000 is requested to establish contractual arrangements with local physicians and clinics at five locations in Europe, northern South America, and the Near East.

Explanation of transfers

	1964 estimate	1965 estimate	Purpose
Transfer in the estimate from "Repairs and improvement of public buildings, General Services Administration."	0	+$44,000	Provide for minor repairs and improvements.
Comparative transfer from "Salaries and expenses, Office of Surgeon General."	+$7.000	0	Decentralization of cost of accounting point activities.
Proposed transfer from—			
"National Heart Institute"	+77,000	0	To cover costs of the Uniformed Services Pay Act of 1963.
Do	+31,000	0	To finance mandatory wage board increases.

SIGNIFICANT ITEMS IN HOUSE AND SENATE APPROPRIATIONS COMMITTEE REPORTS

Item: 1964 House report, foreign quarantine activities:	
(1) Committee suggestion that physicians, or others, performing inspectional services under contract be considered covered by the overtime legislation included in section 364c of the Public Health Service Act, and payment reimbursed by carriers (p. 23 of House report).	(1) Overtime regulations have been revised and issued on December 20, 1963, to provide for payment of twice the usual fee for inspections performed under contract between the hours of 6 p.m. and 6 a.m. and on Sundays and holidays, when such inspections are requested by the carrier. When authorized by law these fees would be reimbursed to the Government by the carrier.

Foreign quarantine activities, Public Health Service

Year	Budget estimate to Congress	House allowance	Senate allowance	Appropriation
1955	$2, 900, 000	$2, 900, 000	$2, 900, 000	$2, 900, 000
1956	3, 202, 300	[1] 3, 100, 000	3, 202, 300	3, 170, 000
1957	3, 532, 500	[2] 3, 315. 000	3, 532, 500	3, 315, 000
1958	4, 026, 000	3, 876, 000	3, 876, 000	3, 876, 000
1959	4, 282, 000	4, 223, 000	4. 532, 000	4, 348, 000
1960	4, 460, 000	4, 460, 000	4, 685, 800	4, 685, 800
1961	4, 991, 000	4, 991, 000	5, 110, 000	5, 110, 000
1962	5, 150, 000	5, 350, 000	6, 084, 000	6, 084, 000
1963	4. 311, 000	5, 910, 050	5, 910, 050	5. 910, 050
1964	7, 116, 000	6, 456, 000	6, 456, 000	6, 456, 000
1964 [3]	[4] 108, 000	------------	------------	------------
1965	6, 893, 000	------------	------------	------------

[1] Supplementals of $32,300 and $20,000 not considered by the House.
[2] Supplemental of $150,000 not considered by the House.
[3] Proposed transfer.
[4] Proposed transfer due to pay increase $77,000. Proposed transfer due to wage board increases $31,000.

INTRODUCTION

The Division of Foreign Quarantine guards the Nation against the introduction of disease from abroad. The Division performs health inspections of international travelers, conveyances, and certain imports at U.S. ports of entry and, when necessary, applies health controls to prevent the importation or spread of disease.

In addition, the Division conducts medical examinations of visa applicants at U.S. consulates abroad and medical inspections of aliens at ports of entry to detect diseases or conditions excludable under immigration law.

The quarantinable diseases, which are the major concern of the Division, are louse-borne typhus, louse-borne relapsing fever, cholera, plague, yellow fever, and, the most dangerous of all, smallpox.

Every day 100,000 persons are cleared through quarantine. Of this number, 1,000 are arriving only a few hours or days after leaving countries in Asia, Africa, and South America where the quarantinable diseases are present. This number, moreover, is growing—and with it the danger that an infected international traveler may enter the United States days before he begins to shows signs of illness. The intercontinental jet airliner has brought the quarantinable diseases to our doorstep. At no time has there been a greater need for constant vigilance by quarantine officials.

Despite the ever-present threat, the United States has not had an outbreak of quarantinable disease known to have been introduced from abroad for the past 16 years. In contrast, the World Health Organization reported recently that in the past 5 years 50 international travelers had imported smallpox into Europe and had infected 250 other persons.

Recognizing that what has happened in Europe could happen in the United States, the Division of Foreign Quarantine is carrying out a continuing nationwide program to promote the periodic vaccination of persons who work in and about ports of entry, of others who have frequent contact with recently arrived international travelers, and of persons who meet and treat the sick. In this effort, the Division has actively sought the cooperation of State and local health departments, travel agencies, transportation companies, and health organizations. In addition, the Public Health Service has drawn up a master plan for preventing or containing an outbreak of smallpox in the United States should an infected traveler ever get through the quarantine screen.

Several incidents in 1963 served as reminders of the danger that confronts the United States. Smallpox was imported by international travelers into Sweden and Poland, where it caused serious outbreaks, and into Switzerland and East Berlin, where there was no spread. Cholera continued to spread from endemic areas in India and Pakistan into almost every other country of southeast Asia. Several cases of cholera were imported into Japan but quarantine officials detected and isolated them in time to prevent an outbreak.

Typhoid fever was introduced into the United States by 12 air travelers who became ill shortly after arriving from Zermatt, Switzerland, which was struck by a typhoid outbreak during the height of the ski season. Dengue fever, which is transmitted by the same mosquito that carries yellow fever, was brought into the continental United States by 18 travelers from infected areas in Jamaica and Puerto Rico. In both instances, joint efforts of the Division of Foreign Quarantine, the Communicable Disease Center, and State and local health officials prevented the diseases from spreading.

This estimate provides funds for the maintenance of quarantine defenses at more than 300 points of entry under U.S. jurisdiction, for medical examinations of visa applicants abroad and the medical inspection of aliens at ports of entry in accordance with immigration law, and for the necessary headquarters activities.

Examination of aliens and quarantine inspections at U.S. ports

	1964 estimate		1965 estimate		Increase (+) or decrease (—)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	539	$4,308,600	539	$4,401,600		+$93,000
Other expenses		538,900		582,400		+43,500
Subtotal	539	4,847,500	539	4,984,000		+136,500
Deduct quarters and subsistence charges		—13,000		—13,000		
Total	539	4,834,500	539	4,971,000		+136,500

The estimate for this subactivity provides funds for the continuation of quarantine functions at over 300 continental and insular locations in the United States and its possessions.

The following table reflects selected major quarantine workloads:

	1963 actual	1964 estimate	1965 estimate
Medical inspection of aliens	3,887,468	4,200,000	4,400,000
Medical certifications	32,670	33,600	35,200
Aircraft inspections	68,959	69,400	70,400
Vessels inspected	32,584	32,230	32,000
Quarantine inspections of persons via:			
Maritime traffic	1,960,170	1,940,000	1,925,000
Air traffic	3,111,456	3,370,000	3,630,000
Mexican border traffic (including local crossers)	30,947,979	31,200,000	31,500,000
Persons receiving special treatment:			
Vaccinations for smallpox	668,640	730,200	741,100
Surveillance	197,242	237,320	240,860
Detention	50	30	30

Aliens arriving at U.S. ports of entry are medically inspected in accordance with requirements of the Immigration and Nationality Act. The 1963 number of inspections of arriving aliens increased 591,469 during 1963 over the 1962 experience. Among the aliens medically inspected upon arrival, more than 32,000 were found to have diseases or conditions reportable to the Immigration and Naturalization Service.

Examination of visa applicants in foreign countries

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	128	$936,800	132	$981,500	+4	+$44,700
Other expenses		526,100		660,600		+134,500
Total	128	1,462,900	132	1,642,100	+4	+179,200

The estimate for this subactivity provides funds for medical examinations of visa applicants in foreign countries, in accordance with the provisions of the Immigration and Nationality Act and the Public Health Service Act.

Immigrants and certain other visa applicants are required to submit to a medical examination as a step in the legal procedure of obtaining a visa. About 40 percent of these examinations are now being conducted by panels of local physicians designated by consular officers of the Department of State. In certan localities, and to the extent possible, the consular officers and the local physicians are given advice and consultation by Public Health Service physicians. The quality and adequacy of the examinations performed by the panel physicians has been of recent concern within the Public Health Service. The Department of State has consistently urged that the examinations be conducted or supervised by Public Health Service physicians.

Implementation of a policy of wider Public Health Service participation would involve (1) greater utilization of the Public Health Service doctors abroad in a supervisory and consultative capacity; and (2) an increase in the number of contractual arrangements for medical examinations in lieu of the present panels of physicians.

The long-range plans of the Division of Foreign Quarantine call for the conduct of medical examinations (1) by local physicians under contract to the Public Health Service in most locations; and (2) by a small staff headed by a Public Health Service physician where such an arrangement is justified by workload, availability of medical facilities, and the need for consultative and advisory services.

In December 1961 the State Department initiated a fee of $10 for each medical examination of a visa applicant performed by a physician employed by the Public Health Service (except nonimmigrants under U.S. Government sponsorship and refugees or escapees). It is anticipated that total fees will approximate $2,300,000 and will completely cover the cost of administering the visa medical examination program, estimated at $1,642,000 for 1965. Thus the program is self-supporting and will be conducted without cost to the United States.

Workload 1958 through 1965

	Examinations	Medical notifications		Examinations	Medical notifications
1958 actual	180,102	45,790	1962 actual	189,192	62,955
1959 actual	155,068	43,136	1963 actual	187,166	62,301
1960 actual	173,402	44,059	1964 estimated	225,000	75,000
1961 actual	185,142	53,333	1965 estimated	260,000	86,700

New program items

1. With over 5,200 visa medical examinations to be performed at Tokyo, Japan, funds to cover the cost of 4 positions and other related costs, in the amount of $59,000, including $18,000 of nonrecurring X-ray equipment, are requested to permit the Public Health Service to establish an examination unit in Tokyo.

2. It is planned to establish contractual agreements with local physicians and clinics to provide visa medical examinations at five locations in Europe, northern South America, and the eastern Mediterranean area. Funds in the amount of $143,000 are requested to implement this proposal.

Administration

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits:						
Division of Foreign Quarantine administrative staff	24	$218, 500	24	$223, 800		+$5, 300
Office of Chief, Bureau of Medical Services	3	27, 100	3	28, 100		+1, 000
Total personnel compensation and benefits	27	245, 600	27	251, 900		+6, 300
Other expenses		28, 000		28, 000		
Total	27	273, 600	27	279, 900		+6, 300

Funds for this subactivity provide for executive direction and overall administrative services of the foreign quarantine activities. They also provide for three positions and related costs in the Office of the Chief, Bureau of Medical Services.

New positions requested, fiscal year 1965

	Annual salary
Ungraded positions at annual rates equivalent to less than $13,615 (4)	$15, 000
Total new positions (4)	15, 000

FRIDAY, FEBRUARY 28, 1964.

SCIENTIFIC ACTIVITIES OVERSEAS (SPECIAL FOREIGN CURRENCY PROGRAM)

WITNESSES

DR. CHARLES V. KIDD, ASSOCIATE DIRECTOR FOR INTERNATIONAL ACTIVITIES, NATIONAL INSTITUTES OF HEALTH

DR. JAMES A. SHANNON, DIRECTOR, NATIONAL INSTITUTES OF HEALTH

ROBERT H. GRANT, ASSISTANT CHIEF, OFFICE OF INTERNATIONAL RESEARCH

SCOTT ADAMS, DEPUTY DIRECTOR, NATIONAL LIBRARY OF MEDICINE

FRANK A. BUTRICO, CHIEF, OFFICE OF RESOURCE DEVELOPMENT, ENVIRONMENTAL HEALTH

DR. DAVID J. SPENCER, ASSISTANT CHIEF, COMMUNICABLE DISEASE CENTER

DR. FORREST E. LINDER, DIRECTOR, NATIONAL CENTER FOR HEALTH STATISTICS

DR. LUTHER L. TERRY, SURGEON GENERAL

HARRY L. DORAN, CHIEF FINANCE OFFICER

JAMES F. KELLY, DEPARTMENT BUDGET OFFICER

Object classification

[In thousands of dollars]

	1963, actual	1964, estimate	1965, estimate
21 Travel and transportation of persons	76		
22 Transportation of things	5		
25 Other services	3,814	6,402	6,268
Total obligations	3,895	6,402	6,268

Program and financing

[In thousands of dollars]

	1963, actual	1964, estimate	1965, estimate
Program by activities:			
Foreign health research (program costs, funded)	1,606	6,402	6,268
Change in selected resources [1]	2,289		
Total obligations	3,895	6,402	6,268
Financing:			
Unobligated balance brought forward	−8,765	−7,670	−5,268
Unobligated balance carried forward	7,670	5,268	
New obligational authority (appropriation)	2,800	4,000	1,000

[1] Selected resources as of June 30 are as follows: Unpaid undelivered orders, 1962, $2,770,000; 1963, $5,058,000; 1964, $5,058,000; 1965, $5,058,000.

Mr. FOGARTY. The committee will come to order.

We have before us this morning the budget for "Scientific activities overseas." This is a special foreign currency program. Dr. Kidd, are you going to justify this appropriation?

Dr. KIDD. Yes, Mr. Chairman.

GENERAL STATEMENT

I am new at this aspect of the Public Health Service programs, but in the course of reviewing this program, I read a number of things, including the House report last year, and I am familiar with the general attitude of the committee toward the progress of the program; and in that connection, I would like to run over, if it is satisfactory with you, the course of events in the past year.

Mr. FOGARTY. All right, go ahead.

BREAKDOWN BY PHS ORGANIZATION

Dr. KIDD. Now, under this program the Public Health Service, as a whole, estimates that by the end of 1964, about $14 million will actually be obligated. That breaks down into about $8.5 million for National Institutes of Health, which has been in this business longer than the other parts of the Service, roughly $2.5 million for community health obligated to date; an additional $600,000 approximately for environmental health; $1.8 million for Library of Medicine, and around $300,000 for the National Center for Health Statistics.

OBLIGATION RATE

Now, the significance of those figures, I think, lies in the fact, first, that $14 million is a substantial sum for research in less developed areas of the world; but second, the obligations rose very rapidly during the course of this fiscal year. In 1963, $3 million was obligated; in 1964, we estimate that $6.4 million will be obligated. There will be an increase in obligations of $2.6 million in the course of this year, as closely as we can approximate it, and that is roughly a 60 percent increase in fiscal 1964 over fiscal 1963.

This has come about during the course of this fiscal year as a result of a number of factors: Paramount among these has been the willingness of some foreign countries to sign agreements. As you know, we can complete all of our negotiations with the scientific organizations and investigators overseas and still not be able to spend the money. Generally the final step is an authorization by the finance minister in the foreign country. The unwillingness of financial authorities to release currency in the foreign countries has been a roadblock which has been removed in some countries in the very recent past. As a matter of fact, we have just heard that an agreement with Burma, for example, has been approved by the Burmese Government.

So far as NIH is concerned, which has done the bulk of this work so far, the concept of the program has been extended beyond that which prevailed in earlier years.

Earlier we had a general policy that Public Law 480 agreements would be signed only if an investigator from the staff at NIH was interested in and competent to supervise work overseas. Well, in the course of the past year we found we were running out of people at NIH who were willing to take on the fairly extensive chore of working with investigators in other countries. As a result, the Public Law 480 program has been extended to the point where investigators from universities have been asked to participate in the program. This is going forward with a good deal of success.

As this program gathers momentum in other parts of the Public Health Service, which have not had this restriction of linking the program to the intramural research, we can expect the program to go forward fairly rapidly.

COUNTRIES IN WHICH PROGRAM OPERATES

At the moment there are 49 projects around the world that are actually in effect. As you know, this program is limited to those countries where we have not only excess currency in general, but excess currency which is made available specifically to PHS for use under the authority of section 104k of the Agricultural Trade Development and Assistance Act. Those countries at the moment are Burma, Egypt, India, Israel, Pakistan, Yugoslavia, and Poland. Earlier we had funds available in Brazil. They have all been committed, and there is no additional money at the moment in Brazil. So the efforts are limited to those seven countries at the moment by the simple reason of the availability of money.

To revert to the course of events during this 1964 fiscal year, we had an appropriation of $4 million. There was, in addition, an unobligated balance brought forward of $7.7 million. During the course of fiscal 1964, that unobligated balance will be cut by $2.4 million, so that we will go into 1965 with an unobligated balance of approximately $5.3 million. The exact figure will depend on what happens during the remainder of the fiscal year, but that is our best estimate.

The appropriation request for 1965 is for $1 million. That means for fiscal 1965, we will have $1 million in new funds appropriated plus $5.3 million unobligated balance carried forward, making a total program of $6.3 million. The expectation is that in fiscal 1965, with the momentum that we find generated this year and, for the first time, I think there is a reasonable expectation that in 1965 the unobligated balance will be drawn down close to zero. The plans of all of the various parts of the Public Health Service are for expanded expenditures of Public Law 480 funds and expansion of programs within the funds available through the new appropriation and the unobligated balance in fiscal year 1965.

For the first time, there is a fairly firm prospect that all of the funds carried forward plus the new appropriation will leave us in balance or perhaps even short. We may well have, for the first time, competing projects that equal or exceed the funds available.

I think it is fair to say that thus far this program has been fruitful: it has supported good science in the countries concerned. It has been a stimulus not only to specific projects but to the total scientific work of the countries involved. It has opened contacts with scientists in some underdeveloped countries, or countries whose rate of economic and scientific growth is not that of ours. It has also opened access to scientists in Poland and Yugoslavia, where extremely productive work is going forward, and we would hope that during the coming year we would sustain the agreements that have already been negotiated and proceed with the negotiation of new agreements.

That summarizes, Mr. Chairman, the present and future.

Mr. Fogarty. All right. Will you supply a statement on the agreements you have in the countries, what projects are being carried on, and the importance of these projects?

Dr. Kidd. Yes; we will be glad to do that.

(The material referred to is as follows:)

Collaborative Research Agreements Currently Being Supported by the Public Health Service

BRAZIL

(1) *Study of venoms of snakes, spiders, and scorpions for therapeutic activity against cancer.*—This research project is designed to study the effect of venoms of native snakes, spiders, and scorpions for possible anticancer activity against experimentally induced animal tumors. In the event definite antitumor activity is demonstrated, active components of the substance will be determined and agents developed for therapeutic trial in human cancer.

(2) *Studies on the pathophysiology of schistosomiasis in Brazil.*—Knowledge of the pathophysiology of schistosomiasis is important relative to the treatment of human beings suffering from this disease, and also contributes to our understanding of the problem of hepatic coma. The ability to employ portacaval shunts to alleviate advanced hepatosplenic schistosomiasis without precipitating hepatic coma, is of considerable clinical importance.

(3) *To obtain specimens of unknown or rare botanical materials accessible in this country and to carry out their chemical and pharmocological evaluation.*—Dr. Mors has been indefatigable in collecting several hundred native Brazilian plants from different parts of the country and preparing extracts, both aqueous and alcoholic, which he has sent us for testing in our experimental cancer chemotherapy program. He has sent us 531 extracts in all, besides several pure compounds derived from plants. While our tests are not yet completed, they show that one pure compound is active against mouse leukemia L–1210, one plant extract has a confirmed activity in cell culture, while eight other plant extracts have shown preliminary activity in one or another of our tumor systems.

The significance of these results is that they have provided us, from a large number of plant materials, with a few materials on which we can concentrate further study. More of the pure compound is needed for preclinical pharmacology; more of the confirmed active extract is needed for isolation of the active agent(s), and more of the other extracts are needed for confirmatory testing. These are all phases in the chain of experimentation and drug development that is necessary for production of a clinically useful drug. In this project, the basis has been established for the development of such a drug; hopefully, further work will result in realization of the goal.

EGYPT

(1) *Metabolic studies on anemias associated with parasitic infestations and malnutrition in adults.*—The aim of this study is to investigate the metabolic and nutritional factors which influence the anemic state in parasite infested and undernourished persons. It is anticipated that this knowledge will serve as a basis for recommendations on dietary or therapeutic measures to combat the effects of parasitism on a large scale.

(2) *Studies on anemia in Egyptian infants and children.*—In recent years, the problem of widespread anemia in the tropical countries has attracted increasing interest. The World Health Organization has recommended that this situation be studied more intensively in order to provide a basis for large scale preventive measures. This study of Egyptian children will provide basic information on the etiology of anemia in childhood.

(3) *Hemodynamic studies in Egyptian adults with hepatospcnomegaly and anemia associated with parasitic infection.*—These studies are designed to corroborate previous clinical and pathological findings on schistosomal infection and to relate them to the multiple factors known to influence pathological changes in the liver.

(4) *Evaluation in man of suppressive, therapeutic and prophylactic agents in bilharziasis.*—This project was established to explore the use of a promising new chemotherapeutic agent for the control of schistosomiasis a debilitating parasitic infection that occurs in over 200 million people in tropical and subtropical climates throughout the world. Preliminary studies indicate that administration of the drug (astiban) on a once-monthly basis sterilizes the parasites so that transmission of the infection is interrupted. More than 5,000 people comprise the study group in Egypt and the project will extend over a 4-year period. Information obtained from this study will find application throughout the world in endemic areas of schistosomiasis.

(5) *Study of the interrelationships of ticks and of diseases affecting man and animals, chiefly in Africa, Asia, and Europe.*—This project is an integrated study of several aspects of interrelationships of ticks and of diseases affecting man and animals in the Old World. Its aim is to present new data and an up-to-date literature review for all important tick species of Africa, to stabilize taxonomic concepts by means of generic reviews and revisions, where necessary, to present an extensive study of the biology and phylogeny of one large genus of ticks in order to illustrate the epidemiological implications of such knowledge.

INDIA

(1) *Research on vegetable protein supplements and protein malnutrition.*—This study is intended as an intensive, all inclusive project to develop and test both large scale production of protein food supplements, and large-scale assessment involving biochemical, animal, and human testing. It involves basic research on product development leading to production of practical food supplements to enable a thorough evaluation of such products as regards both repletion and prevention of kwashiorkor in infants and other degrees of protein malnutrition in various population groups.

(2) *Clinical, laboratory, and field studies on nutrtional deficiencies in southern India.*—Known foods which meet the needs of young children in India for high quality protein are both scarce and expensive. A study of alternative sources of protein has been undertaken with this project. Vegetable protein isolates have been developed and in various combinations are being evaluated by animal, clinical, and field trials.

(3) *Comparative studies of adolescent problems and their resolution during the college years.*—India offers advantageous natural laboratory settings for the study of the social-psychological effects of rapid industrialization and technological change on adolescent personality development. This research will provide guidelines for the development of more systematic studies of psychosocial determinants affecting the resolution of adolescent problems.

(4) *Development of potential anticancer and antiviral agents.*—This research project is designed to develop potential anticancer agents through the collection and identification of indigenous plants, the preparation of aqueous and alcoholic extracts from them and testing of these extracts in animal tumor and tissue culture screening techniques.

(5) *Study of distribution of cancer cases in 12 Bombay hospitals and generally throughout the States of Maharashtra and Gujarat.*—This research project is designed to determine the incidence of cancer in two Indian states which may be helpful in future worldwide etiological investigations of malignant disease.

(6) *Investigation of viruses and vectors in the Indian environment.*—The objective of this research project is to determine the specific etiology, distribution, and importance of arthropodborne viral disease in India to man and his domestic animals and to identify important vectors and intermediate hosts.

(7) *Factors influencing the disposition of oral calculus.*—Nearly half of Americans at age 50 have periodontal (gum) diseases, which, among adults, cause more loss of teeth than by decay. By age 65, almost everyone is affected. The formation of calculus is believed to play an important roll in the progress of the disease. Little is known or understood concerning it. The project in India is to identify certain characteristics of persons forming calculus on and around the teeth. It is providing clues to establishing a preventive program in periodontal disease which is a major dental health problem in this country.

The basic data derived from this study will provide for the broadening of the base program in periodontal disease in this country.

(8) *Enterovirus etiology of central nervous system diseases and fevers of unknown etiology in children.*—Selected patients with diseases of the central nervous system or with fevers of unknown origin, in the hospital or outpatient clinics of the Christian Medical College and/or in their homes will be studied to determine the presence and characteristics of infection with enteroviruses as the etiologic agents of these diseases.

Community studies of village populations will be instituted to investigate mechanisms of enterovirus transmission, including such factors as environmental sanitation, personal habits, climatic and seasonal variations, etc.

Studies may be undertaken of discrete outbreaks of diseases which may be caused by enteroviruses, such as poliomyelitis, meningitis and encephalitis, pleurodynia, myocarditis, or other suggestive syndromes, for the purpose of attempting (1) to define the factors which permitted epidemic occurrence and (2) to suggest means for prevention and/or control of future outbreaks.

These studies will complement investigations currently being made in this country.

(9) *Characteristics of India mycobacteria.*—The objective is to investigate the characteristics of Indian mycobacteria which are responsible for abnormal changes, responses, or pathological lesions in man.

The information to be obtained by this project, in conjunction with that obtained by the Public Health Service, should add greatly to the possibilities of interpreting the findings and of studying the interrelation of the allergenic and pathogenic properties of the mycobacteria to the prevailing tuberculosis epidemiology in both countries.

ISRAEL

(1) *An epidemiological study of hypertension and ischemic heart disease in a defined segment of the adult population of Israel.*—This research project is designed to study a control population in order to ascertain the incidence of detectable manifestations of hypertension and of coronary heart disease, as well as the incidence of other pertinent conditions in relation to specific biologic and socioeconomic characteristics of the population.

(2) *The development of sensitive methods of measurements of oxygen isotopes.*—The National Institutes of Health, in collaboration with the Weizmann Institute (which produces 98 percent of the world supply of O^{18}) is studying the development of sensitive methods of measurement of that oxygen isotope. Preliminary work indicates that it is entirely practical to make precise measurement of isotope abundance in chemical compounds through infrared spectroscopy. The spectroscopic method of measurement of O^{18} may provide the sensitivity and simplicity which are normally obtained only with radioisotopes. Thus we shall have a renewal of interest in mechanisms of biological oxidation and human metabolism. It is entirely possible that this research may revolutionize procedures available for these basic biochemical studies with isotopic oxygen.

(3) *The study of individual oligopeptide members of polyamino acid series.*—Synthetic polyamino acids have proven to be most useful models of protein structure. This research project is designed to examine the effect of chain length and amino acid sequence and composition on the relevant physical, chemical, and biological properties of polyamino acids.

(4) *Study of toxoplasmosis in Israel.*—This epidemiologic study is designed to assess the extent of toxoplasma infection in human beings and animals in Israel. Recent evidence indicates that toxoplasmosis as a cause of brain, eye, and pulmonary disease in children and adults is more frequent than earlier statistics would indicate. Clinical aspects of the disease are being studied, as well as its detection by serological, isolation, and skin testing techniques in an effort to determine the life cycle of the parasite and its mode of transmission from host to host.

(5) *To study the effect of DNA and DNA nucleotides in the reactivation of immune responses.*—Deoxyribonucleic acid (DNA) preparations, and deoxyribonuclease (DNAse)-treated DNA have been found to reactivate the immune response of immunologically suppressed animals. The present program of collaborative research is designed to test the chemical nature of the reactivating factors, the specificity of their effect in terms of genetic and tissue origin, and some aspects of the mechanism of the induced immune reactivation.

(6) *Cross-cultural comparisons of developmental processes in human infants.*—This research project is designed to determine and compare the characteristic developmental trends of healthy human infants who are reared under circumstances which differ geographically, culturally, and ethnically.

(7) *Use of fluorescent antibody in the study of arbovirus infection in mosquitoes.*—The objective is to develop methods which would make it possible to prepare sections of mosquitoes and mosquito larvae following infection with arboviruses and to stain the infected cells with fluorescent antibody. This would make it possible to determine in which cells the different viruses multiply and the mode of dissemination of the virus in the insect tissues. If successful, these methods will be applicable to field studies for the detection and identification of arboviruses in their vectors in the United States.

(8) *Differentiation and characterization of mouse-virulent and arbovirus strains.*—The objective is to study the genetic and other biological properties of mouse-virulent and avirulent mutants of two representative strains of group B and A arboviruses, West Nile and Sindbis virus. The main purpose of the study is to obtain mutants of adequate stability in avirulence. The procedures developed might subsequently serve as models for the preparation of other arbovirus strains with similar properties and assist in the production of live virus vaccines for immunization of man against certain arboviruses prevalent in all parts of the world including the United States.

(9) *Effect of dietary and occupational exposure to DDT under the climatic impact of a subtropical country.*—The objective is to study the measure in which a hot climate may influence the exposure to and absorption and storage of DDT, and the effect of DDT absorption on man. The different usage of DDT in Israel will allow for comparison with U.S. data under different environmental conditions.

(10) *Evaluation of immunizing efficacy of Kelev strain rabies vaccine in cattle.*—The objective is to evaluate the immunizing efficacy of Kelev strain rabies vaccine in cattle against controlled experimental challenge with street rabies virus. Results of this experiment will give us the needed information on whether the Kelev strain can be expected to protect against exposure to rabies. If it proves efficacious, it can be used not only in Israel, but also on a global basis in many countries with rabies problems, including the United States.

(11) *Field study of arboviruses.*—The objectives are to isolate and identify arboviruses occurring in vertebrate and invertebrate hosts in Israel and to identify the species of local mosquitoes capable of transmitting these viruses under laboratory conditions. There is increasing awareness of the intercontinental spread of arboviruses and the emigration into Israel provides an excellent source of a compact population with a wide variety of countries of origin.

(12) *Preparation of insect tissue cultures and its application to arbovirus research.*—The project is concerned with the development of methods and media suitable for the cultivation of insect tissues in vitro and the study of the proliferation of arbovirus in insect tissues grown in vitro, and the effect on the biological properties of the virus (virulence toward laboratory animals, infectivity to insects in vivo, etc.). If successful, this will provide a new tool for research in the United States as well as abroad.

POLAND

(1) *Preconceptual causes of defects in children.*—This research project is designed to study the effects of antibiotics administered to animals over successive generations. Studies will also be conducted to evaluate the effects of sulfonamides, bacterial toxins, psychopharmacological agents, especially those of the monoaminoxidase inhibitor group, specific antimetabolites, and hormones. Later studies will be devoted to the effect of drugs upon the outcome of pregnancy in human beings.

(2) *Study of clinical and laboratory characteristics of muscle disease.*—This research project is designed to study problems connected with muscle diseases, using clinical observation, electromyography, electrocardiography, and biochemical, histopathological, histochemical, radiological, and endocrinological examinations. Experimental work will include the degree of muscle lesion in different pathological conditions, connection between endocrinal and muscle disturbances, and symptomatology and pathophysiology of muscle diseases.

(3) *Neuropathological studies of all forms of encephalitides in Poland.*—This research project is designed to study the correlation between clinical, microscopical, and virological data in encephalitides.

(4) *Tissue-culture studies.*—It is well established in classic neuropathology that hypoxemia and acidosis increase the permeability of the blood-brain barrier. The aim of this study is to establish whether and to what extent the changes in the living condition of the glial tissue in culture produce changes in its fluid

absorption capacity, and also cause simultaneous changes in the cell enzymatic system, as observed in the intracytoplasmic oxidation-reduction process.

(5) *Histochemical research concerning arteries of the circle of Willis.*—The objective of this study is to analyze relationships between morphological and histochemical arteriosclerotic changes; to study the nature and localization of chemical substances in sclerotic foci within the basal arteries of the brain, and to establish correlations between histochemical changes of cerebral vessels and those of the aorta and coronary arteries, and to obtain data regarding the localization of various chemical constituents in the various arteries of the brain as well as the aorta and coronary vessels.

(6) *Isotope studies.*—These studies have been undertaken to determine the reliability of radioactive isotope techniques in the clinical differential diagnosis of brain tumor, idiopathic encephalomalacia, and central nervous system lesions due to hemorrhage. Preliminary investigations indicate that the radiographic pattern observed in cases of cerebral hemorrhage are distinctly different from those seen in patients with brain tumors or cerebral softening of undetermined etiology.

(7) *Investigation of functional organization of the brain.*—It has been established in dogs, cats, and monkeys that prefrontal ablations produce dramatic impairment of inhibitory conditioned reflexes and that prefrontal lesions produce in these animals an increased tendency to perseveration. This study is aimed at further elucidation of the mechanisms of prefrontal symptoms and more precise localization of the areas responsible for different functions.

(8) *The biology of brain tumors.*—The object of this research project is to provide the morphological criteria concerning the developmental dynamics of the tumors and their biological properties which would be of value for prognosis and treatment, to study the tissue reaction following brain surgery with special attention given to hypothalamic-hypophyseal regions and to suprarenal cortex.

(9) *To establish population-based cancer registers in selected areas of Poland.*—This research project is designed to establish population-based cancer registers in selected areas of Poland to study clinical and epidemiological features of cancer by site in Poland and to compare with data on Polish-born immigrants to the United States.

(10) *Epidemiology and biology of trichinosis.*—Immunodiagnosis: Specificity of skin and serologic tests in the diagnosis of trichinosis; analysis of antigens and evaluations of various antigens and antigenic fractions for the diagnosis of early trichinosis in man.

Epidemiology: Studies of prevalence in man using various techniques; duration of skin sensitivity; studies on prevalence in wild and domesticated animals.

Clinical studies: Studies on pathology of disease in man to include changes in muscle histology and physiology, circulatory system, nervous system, will be made. Protein depletion studies and metabolic disturbances caused by the disease will also be made. The effect of cortisone and other forms of therapy will be studied.

Experimental studies: Studies on the defense mechanism on the host, effect of hormones on infection in the host.

Development and evaluation of control procedures.

(11) *Epidemiology of staphylococcal disease including studies on virulence of staphylococci.*—The objective is to develop possible methods for control of staphylococcal infections through study of (1) incidence, nature, and epidemiology of such infections; (2) nature and action of toxins; (3) purification and action of coagulases; and (4) antigenic structure of the organisms. This will be of value to the United States since there has been less widespread use of penicillin in Poland and, therefore, the natural occurrence of antibiotic resistance is easier to study.

(12) *Insect-borne encephalitides.*—This is an investigation of arbovirus dissemination in the healthy population of the country on the basis of a serological survey comprising the use of a wide antigenic spectrum and a search for new arboviruses with ecological, virological, and serological investigations in the "suspected" areas of Poland. Already, Eastern encephalitis virus has been identified for the first time in Europe, which will aid in the unraveling of the epidemiology of Eastern encephalitis in this country.

(13) *Estimation and effect of carcinogenic material in airborne particulate matter collected in some cities in Poland.*—It is expected that the work to be performed under this agreement will assist in solving one of the major problems in the field of environmental health; that is, the effect of carcinogenic material

in the atmosphere. One of the objectives is to determine the concentration of 3.4-benzpyrene and other polynuclears in the atmosphere over representative cities in Poland as an indication of the quantity of carcinogenic material. The relationship of the quantites of 3.4-benzpyrene with the mortality and morbidity of cancer in these cities will be studied as well as the effects of fractions of benzene extracts of the material on laboratory animals.

YUGOSLAVIA

(1) *Study of the incidence of hypertension and coronary heart disease in newly industrialized populations.*—The specific objective of this study is to determine the incidence of different forms of cardiovascular diseases in rural and industrial population and the relationship between incidence rates and ethnic origin, diet, type of work, physical activity, physical and mental stress, body type, and personal habits such as the use of tobacco and alcohol. The principal cardiovascular diseases studied will be hypertension and coronary (ischemic) heart disease. The primary emphasis will be upon the study of the incidence of these forms of cardiovascular disease in newly industrialized populations.

(2) *Body transport and disposal of toxic chemicals and biologic threshold values.*—This recently initiated collaborative project with Yugoslavia to study the biological effects of selected industrial chemicals shows great promise. Excellent cooperation among the personnel from the institute of occupational health, industry, and the faculties of the medical and pharmaceutical school has been secured at no increase in cost to the project.

The development of rapid reliable methods of determining early industrial intoxication before the appearance of overt irreversible symptoms is expected from this study.

(3) *Studies of the effects (biochemical, morbidity, and mortality) of the radioactive constituents of uranium ore on the health of workers.*—The objectives of this project are to study the metabolism of the radioactive elements which occur in uranium ores and the effects of these materials on the health of workers who are mining and processing these ores. Some studies of uranium miners are being conducted in the United States; however, many types of studies are difficult to do in this group because they smoke many cigarettes, they move from mine to mine, and many work in the industry for only a short time. Comparable studies done on Yugoslav miners may give better information on some points and confirmatory data on others. The combined information will help radiobiologists to better evaluate the effects of low-level radiation exposures in other industrial groups. It could be especially useful in estimating the effects of low-level radiation exposures on general population groups.

(4) *Determination of the relationship of leptospirosis in the etiology of endemic nephropathy (chronic renal disease) In Yugoslavia.*—Objectives: In lowland agricultural areas of Yugoslavia, endemic chronic nephropathy or a chronic nephritis has been observed in approximately 10 percent of the population. The etiology of this disease has not been proven, but clinical and epidemiological studies suggest that it may be a late result of leptospiral infection. In an effort to establish whether endemic nephropathy in Yugoslavia is a late result of leptospirosis, studies will be undertaken to determine the prevalance of renal diseases consistent with intersitial nephritis and the presence of leptospiral antibodies in (1) a rural population group in an area considered to be endemic; (2) in a rural area where renal disease is rare, and (3) in an urban population that has no contact with agricultural areas or farm animals. All patients found to have endemic nephropathy and to possess leptospiral antibodies will be studied carefully to rule out other known causes of renal disease. Consideration will also be given to the possible role of other factors in causing renal diseases in these patients, such as specific diet deficiencies ; alcoholism.

LEADTIME IN NEGOTIATING AGREEMENTS

Mr. FOGARTY. Back to 1960—a request was made for a supplemental of $3.7 million which was not appropriated that year. In 1961, $3,707,000 was asked for and that is what you received; and then you had a considerable jump in 1962 up to $10,084,000. What was the reason for that big jump in 1962 from $3 to $10 million?

Dr. Kidd. At that time there was a degree of optimism as to the rate at which these programs could develop, that, in retrospect, proved unrealistic. There was a general underestimate of the time it would take to negotiate with foreign countries and scientific groups. This has proved to be most time consuming. We have to send people on preliminary scouting expeditions.

Mr. Fogarty. You went into this quite extensively last year and that was one of the biggest problems, getting these agreements signed?

Dr. Kidd. The negotiations?

Mr. Fogarty. Yes.

Dr. Kidd. Yes, sir. But by this time people throughout the Public Health Service have established extensive personal contacts not only from NIH but from the other bureaus with their counterparts, so that the process of negotiation now proceeds much more expeditiously than in the past. We still have this problem of the willingness of the foreign countries to release the funds, even after we have negotiated the agreements. It differs country by country. It is still difficult in India because they are apparently wary in the Ministry of Finance of releasing rupees into the economy and thereby generating demands for manpower and for goods that are in competition in a very tight economy. In Israel the opposite is true. We have very little difficulty in negotiating and the science is of very high caliber.

Mr. Fogarty. The life expectancy is about the same difference, too, is it not? India and Israel?

Dr. Kidd. Yes; Israel is scientifically an advanced country and demographically, too.

Mr. Fogarty. The appropriation for 1964 was $4 million and the request for 1965 is $1 million.

Dr. Kidd. Yes, sir. That is correct.

UNOBLIGATED BALANCES

Mr. Fogarty. Now, because of the difficulties in getting this program off the ground, there are large balances carried forward from former appropriations, so actually you estimate a little over $6 million will be available for each of the years 1964 and 1965?

Dr. Kidd. Correct. Almost exactly at the same level, $6.3 to $6.4 million.

Mr. Fogarty. We have just the same situation this year as last year. For 1964 you asked for an appropriation of $6,647,000. We cut it to $4 million. Now your justification shows you do not need any of that because the carryover of unobiligated balances from 1963 are more than you will obligate this year?

Dr. Kidd. Correct.

Mr. Fogarty. But now the trend has gone the other way from what you have said in your opening statement?

Dr. Kidd. It very definitely has. We may be in one of these situations where we are out of phase. There is a long leadtime on these agreements. The momentum has been generated so we are in a situation where all of the funds available in the countries concerned will be needed. We may be able to negotiate agreements, and then find the pinch on the availability of funds.

Mr. Fogarty. How long have you had control of this?

Dr. Kidd. Since January 1964. Incidentally, everything that I recount here is hearsay, and I had nothing to do with this progress that has been made during the past year.

NATURE OF STUDIES

Mr. Lesinski. May I ask at this point, Dr. Kidd, what type of studies do you make in these various countries?

Dr. Kidd. It is a wide variety of investigations, depending a great deal on the scientific background of the people in the countries concerned. In India, for example, these investigations center very heavily on communicable diseases, on the studies of transmission of various kinds of infectious diseases. In contrast, in Israel very complex scientific problems are studied in the laboratory. For example, they produce about 95 percent of the world's supply of oxygen 18, an isotope of oxygen which is very useful in studies of oxidation and metabolic processes in the body. So the kind of investigation varies from country to country.

Mr. Lesinski. In other words, it depends on the circumstances of various countries, what the investigation is for?

Dr. Kidd. That is right; the kinds of studies depend on the scientific background of the country and the state of scientific sophistication which the investigators in the country have reached. That is why, in the past, we have thought it advisable to have some degree of scientific surveillance, so to speak, from investigators in this country. Now in some countries and for some investigators, that is not necessary. Some of these scientists are as good as ours and better, in some fields.

PURPOSE OF PROGRAM

Mr. Lesinski. Is it your purpose to help them or to gain from them certain knowledge?

Dr. Kidd. In this it is both. You see, these are excess currencies in the countries involved. This involves no dollar expenditure, so to speak, although there is an appropriation. The dollars which are appropriated here are used in effect to buy on the books the currency which exists in the countries concerned, the bookkeeping transaction is set up so that the Congress has some knowledge of what these programs are and some control over the size rate of growth, and distribution among the countries.

METHOD OF FUNDING

Mr. Lesinski. The funds stay here, though? The funds actually stay here?

Mr. Kelly. The Federal dollars stay here.

Dr. Kidd. The excess currency stays in the country concerned and is available only there. Incidentally, we are encountering another problem in the expansion of this program. The funds are available only in the countries concerned. Quite often to make effective an investigation that may involve the equivalent of $100,000 or $200,000 in local currency a piece of equipment requiring dollars may be required, or dollar expenditure may be necessary for something else. Dollars are definitely not available under this program. Therefore, we are trying to work out means of securing dollars for the program. We are exploring the possibility of contributions from private foundations, which might make available a small amount of money, say, for a piece of equipment which we can tie into a project abroad to make the whole thing work better. We have no assurances, but we are exploring this possibility.

OBLIGATIONS FOR 1964

Mr. Fogarty. Did you say you had obligated $4 million as of now?

Dr. Kidd. No, sir, I do not believe I did.

Mr. Fogarty. Well, what is it now?

Dr. Kidd. It is running around—to date on the total commitments, around $6 million, so we have $400,000 anticipated for the remainder of the year in agreements which have not been signed.

Mr. Fogarty. How much have you obligated as of now?

Dr. Kidd. Approximately $6 million.

Mr. Fogarty. But through December 31 this table that the Department submitted shows you obligated only a million.

Dr. Kidd. Pardon me a moment while I reconcile these figures.

Mr. Fogarty. You have really gone to town since you have taken over, since December 31. I am not finding fault with that; I think this is a good program.

Dr. Kidd. No; I do not want to delude you on these figures.

Mr. Kelly. It may be we are differentiating between commitments that have been made but not yet been firm——

Mr. Fogarty. Well, staighten it out for the record.

(The information requested is as follows:)

The $6 million in obligations referred to above relates to estimated obligations for the complete fiscal year 1964. As of December 31, $1,002,755 had actually been obligated, and $1.8 million was obligated during January.

Mr. Fogarty. I think it is a good program; I am sold on it. I think we ought to use some of these funds over there for these purposes because, as you say, it not only helps these countries but also we get a great deal of help and knowledge from some of these projects.

Dr. Kidd. That has been our experience.

EXCESS FOREIGN CURRENCIES

Mr. Denton. I think this is a very good program and in addition, there is no drain on the gold supply. The money is over in those countries and helps us and them. I am disappointed that more has not been obligated.

Another thing that rather surprises me, I see India is one of the countries that has an excess of foreign currency yet we have had two or three projects in India where we are paying cash from the American Treasury to pay for them. Why can that not be straightened out, so those projects would be paid for by these funds?

Dr. Kidd. Mr. Denton, in that connection you raised a related question the other day which I would like to respond to because we looked into the situation. For our International Centers for Medical Research and Training you raised the question why we could not use excess currency. I checked on this, and all the local expenditures for these are paid from excess currencies.

Mr. Denton. Why did you ask for that appropriation under "General research and services," then?

Dr. KIDD. I wanted to differentiate between excess currencies specifically made available to the Public Health Service under Public Law 480 and other excess currencies.

Mr. DENTON. That is right; I realize that.

Dr. KIDD. It is the other excess currencies we use for these ICRMT's.

Mr. DENTON. Mr. Kelly mentioned that when you need money overseas, you buy through the Treasury.

Dr. KIDD. We routinely check through the Treasury; that is right, sir.

Mr. DENTON. Of course I cannot understand why you do not have 480 funds available in more countries. You are not to blame for it, I know that.

Mr. KELLY. The list we have given you which Dr. Kidd mentioned contains the only countries that the Treasury Department has determined to have Public Law 480 funds in excess of normal U.S. needs. Now these countries may have other excess foreign currencies but this program may only use excess foreign currencies under the Public Law 480 program.

Mr. DENTON. Maybe you could tell me how 480 funds were generated in Egypt?

Dr. KIDD. I do not know the details, but the funds come from shipments of grain to Egypt. The price that is paid for them by Egypt goes into blocked currencies which generate these funds.

Mr. DENTON. It has been some time since I was on the Foreign Operations Subcommittee, but I remember at that time we found some expenditure in Egypt that caused quite a stir. Everybody was all upset about it. We were giving money to Egypt. That was 4 or 5 years ago. I guess our relations with Egypt have improved.

Dr. KIDD. I am no expert on foreign relations. I do know that the relationship between investigators from the United States, so far as science is concerned, in Alexandria and Cairo are very good. The Navy has had an installation there for a long time.

Mr. DENTON. I am not worried about your part. I wondered why the 480 funds are over there. This is quite a commentary that we have seven nations where money from the 480 funds is available to be used by you and of the seven, one is Egypt, one is Poland, and one is Yugoslavia.

Dr. KIDD. I imagine that simply arises from the history of the grain program, the shipments abroad.

Mr. DENTON. It looks like a great deal of our grain is going to countries that do not have friendly relations with the United States.

Dr. KIDD. I would not know about that. As a matter of fact, the availability of money to us is not necessarily a reflection of where the currencies are in general.

Mr. FOGARTY. Mr. Lesinski?

Mr. LESINSKI. I do not want to put Dr. Kidd on the spot, but I would suggest the committee get an explanation of how these funds were built up in these countries, just for information purposes.

Mr. FOGARTY. You mean where these 480 funds came from?

Mr. LESINSKI. Yes.

Mr. FOGARTY. We sold them foodstuffs, and these funds were put aside in their currency in these countries.

Dr. KIDD. That, essentially, is the story. We can give you greater details.

Mr. Lesinski. I believe for the benefit of the committee and anyone who reads the record, the details should be given.

Mr. Fogarty. I think you are right. They can put in a complete statement on the source of the funds. That is a good idea.

(The material referred to is as follows:)

Title I of the Agricultural Trade Development and Assistance Act of 1954 (Public Law 480), as amended, authorizes the President to enter into agreements with friendly nations for the sale abroad of surplus agricultural commodities on various conditions, including payment in foreign currencies and reasonable protection of the normal export sales of the United States and of other friendly exporters.

Within the limits established by title I of Public Law 480, any agricultural commodity found by the Secretary of Agriculture to be in surplus supply may be sold for foreign currencies, so long as precautions are taken that such sales do not displace normal trade (i.e., regular sales for dollars) or unduly disrupt world market prices.

Factors taken into account in developing a title I agreement include (1) the participating country's needs, economic status, and foreign exchange position; (2) the impact on dollar sales and other export programs; (3) effect on export markets of other supplying countries; and (4) the relationship of the program to the foreign aid program and overall foreign policies of the United States.

Primary responsibility for the title I programing is assigned by law and Executive order to the individual agencies as follows:

The Department of Agriculture is responsible for determining the commodities which are available for programing and the commodities and countries to be included in agreements after advising with other Government agencies. It is also responsible for coordinating the development of agreements, for implementing the sales provisions of signed agreements, and for other aspects of the program not specifically delegated to other agencies. The Department of State is responsible for negotiating agreements including consultation with friendly exporting countries, and for foreign policy determinations. The Agency for International Development reviews the programs for conformity to the aid programs of the United States and administers economic development loans and grants. The Bureau of the Budget makes allocations and apportionments of foreign currencies to the extent to which the Director of the Bureau of the Budget deems necessary.

The Treasury Department is responsible for the purchase, custody, deposit, and transfer, and sale of the currencies received. In addition there are other departments and agencies which are concerned with the development of title I programs and other uses of the foreign currencies that accrue.

In addition to title I sales under Public Law 480, other collections of foreign currencies arise from various governmental activities, such as section 402 of the Foreign Assistance Act of 1961, as amended, which specifies that a certain amount of that appropriation shall be used only to purchase surplus agricultural commodities for sale to foreign countries for their currencies.

In summary, most currencies accruing to the credit of the United States result from past or current international agreements authorized under several laws. In most cases, these international agreements reflect either sales agreements, wherein commodities (usually surplus agricultural commodities) are sold to a foreign purchaser for currencies, or they reflect loan agreements, wherein dollars or foreign currencies themselves are lent to foreign borrowers and may be repaid in the currency of the borrower. Currencies also become available in much smaller amounts under special international agreements and the normal operations of the U.S. Government abroad.

Mr. Lesinski. I have no further questions.

Mr. Fogarty. All right. Thank you very much.

Dr. Kidd. Thank you.

JUSTIFICATION MATERIAL

(The justification material submitted to the committee follows:)

SCIENTIFIC ACTIVITIES OVERSEAS

(Special Foreign Currency Program)

Amounts available for obligation

	1964	1964
Appropriation	$4,000,000	$1,000,000
Unobligated balance brought forward	7,669,596	5,267,696
Unobligated balance carried forward	−5,267,696	0
Total obligations	6,401,900	6,267,696

Obligations by activity

Description	1964 estimate	1965 estimate	Increase (+) or decrease (−)
Foreign health research (total obligations)	$6,401,900	$6,267,696	−$134,204

Obligations by object

	1964 estimate	1965 estimate	Increase (+) or decrease (−)
25 Other services (total obligations by object)	$6,401,900	$6,267,696	−$134,204

Summary of changes

1964 enacted appropriation	$4,000,000
Unobligated balance brought forward	7,669,596
Unobligated balance carried forward	−5,267,696
Total estimated obligations 1964	6,401,900
1965 estimated obligations	6,267,696
Total change	−134,204
Increases:	
1. National Institutes of Health	1,383,496
2. Community health	2,932,000
3. Environmental health	1,040,000
4. National Library of Medicine	687,200
5. National Center for Health Statistics	225,000
Total increases	6,267,696
Decreases—Nonrecurring projects:	
1. National Institutes of Health	2,803,700
2. Community health	1,243,000
3. Environmental health	1,232,000
4. National Library of Medicine	574,300
5. National Center for Health Statistics	548,900
Total decreases	6,401,900
Net change	−134,204

	Budget estimate to Congress	House allowance	Senate allowance	Appropriation
1960	$3,707,000	(1)	0	0
1961	3,707,000	$3,707,000	$3,707,000	$3,707,000
1962	10,084,000	8,000,000	10,084,000	9,000,000
1963	2,800,000	2,800,000	2,800,000	2,800,000
1964	6,647,000	4,000,000	4,000,000	4,000,000
1965	1,000,000			

[1] No change.

INTRODUCTION

The year 1965 will mark the fifth year of operation of this program of medical research initiated with currencies which the Treasury Department has determined to be excess to the normal requirements of the United States. Funds were provided in the initial year (1961) for only the National Institutes of Health. The program has since expanded to include the National Library of Medicine, community health, environmental health, and most recently, the National Center for Health Statistics. Forty-eight projects are currently being supported.

Research agreements which have been negotiated, or proposed under this program, contemplate full financing for periods of up to 5 years. All projects are thus assured of support for the full term of the agreement.

A summary of actual and estimated obligations, by country, follows:

Country	1963 actual	1964 estimate	1965 estimate
Brazil	$4,647	$10,000	0
Burma	4,690	568,000	$175,000
India	1,262,812	1,018,000	1,564,000
Israel	859,350	1,291,800	1,980,200
Pakistan	98,606	813,700	275,000
Poland	979,789	1,458,000	1,069,000
United Arab Republic (Egypt)	144,489	585,000	680,000
Yugoslavia	540,621	657,400	524,496
Total	3,895,004	6,401,900	6,267,696

Narrative justification of the Public Health Service program being conducted under this appropriation follows:

NATIONAL INSTITUTES OF HEALTH

Objectives

The general objective of this program is to support, through utilization of U.S.-owned foreign currencies, scientific activities overseas within the program interests of the National Institutes of Health and of mutual interest to the host country, its institutions and investigators.

Mechanisms

The Public Law 480 program at NIH was originally conducted as a direct extension of the intramural research interests of the National Institutes of Health and was developed through collaborative research agreements. However, the NIH has also explored an additional operating mechanism by which the program may be conducted. This is the modified grants mechanism, which enables the NIH to negotiate agreements with U.S. medical schools or nonprofit research organizations to conduct research abroad in collaboration with selected foreign institutions.

In each of the above mechanisms, the National Institutes of Health retains responsibility for negotiations and transactions within official elements of the host country.

Proposals for support, which must in all cases be additive and in accord with the research objectives of the host nation, under each of these mechanisms receive the same careful technical merit review and scientific appraisal required for all research projects at the National Institutes of Health.

Accomplishments

Scientific accomplishments achieved thus far through this program are encouraging. For example:

Israel.—The National Institutes of Health, in collaboration with the Weizmann Institute (which produces 98 percent of the world supply of oxygen 18) is studying the development of sensitive methods of measurement of that oxygen isotope. Preliminary work indicates that it is entirely practical to make precise measurement of isotope abundance in chemical compounds through infrared spectroscopy. The spectroscopic method of measurement of oxygen 18 may provide the sensitivity and simplicity which are normally obtained only with radioisotopes. Thus we shall have a renewal of interest in mechanisms of biological oxidation and human metabolism. It is entirely possible that this research may revolutionize procedures available for these basic biochemical studies with isotopic oxygen.

Egypt.—Collaborative projects in Egypt have led to the discovery of:

1. The human requirements for vitamin E in the treatment of a macrocytic megaloblastic anemia in infants, and.

2. The human requirement for zinc; and has demonstrated a clinical syndrome of dwarfism, infantilism, and anemia found to be widespread in the Near East which is believed to be associated with deficiencies of zinc and iron. It appears that zinc deficiency, heretofore unsuspected in human beings, contributes to dwarfism and infantilism.

In addition, detailed studies have been conducted on the problem of iron deficiency anemia, complicated by parasitic infestation, employing radioisotope techniques. Data derived from these studies may contribute to the development of practical procedures for the treatment and prevention of this type of anemia which occurs in the United States.

Pakistan.—1. Preliminary evidence, arising from our collaborative research, suggests that thiamine-deficient individuals may be especially susceptible to cholera. Furthermore the treatment of acute cases seems to require, in addition to the usual fluid replacement, the administration of thiamine (vitamin B_1). Further confirmatory studies are now underway.

2. Identification and study of blindness in infants (xerophthalmia) which results from vitamin A deficiency is being investigated in a population of infants in east Pakistan. This study will elucidate the possible relationships of the high consumption of mustard oil (an unusual unsaturated fatty acid) and other local dietary factors in the utilization of vitamin A.

India.—The Central Food Technological Research Institute, in Mysore, in collaboration with NIH scientists, has developed a plant protein supplement from peanut meal which is effective in the treatment and prevention of kwashiorkor (severe protein malnutrition in infants). Preliminary observations indicate that an extract of coconut meal greatly enhances the biological value of these plant protein isolates. Interestingly enough, this enhancement cannot be accounted for solely on the basis of the amino acid or protein content.

Brazil.—A collaborative investigation now underway in Brazil has recently yielded two rare plant extracts which have demonstrated reproducible antitumor activity when injected into mice bearing tumors such as carcinoma, sarcoma, and leukemia. These extracts have also been effective in destroying cancer cells derived from human malignant tumors. Chemical fractionation is now being performed to identify the active ingredients in these extracts.

1964 plans

In addition to the 33 projects currently being supported, a number of projects are in the final stages of development.

Burma.—The role of nutrition, metabolism, and related disciplines in the pathogenesis of human disease.

Egypt.—A pharmacologic study of the venoms of poisonous animals (snakes and scorpions) within Egypt.

India.—Investigations in amebiasis. Investigation of the constituents of pharmacologically active plant materials native to India. Metabolic studies of vitamin A.

Pakistan.—Field trials of CI–501 (an antimalarial) against the indigenous malarias of the Lahore area of Pakistan. To develop, improve, and demonstrate measures for the prevention and eventual eradication of cholera (3-year extension). Field evaluation of the residual fumigant DDVP for the control of malaria and its vectors.

Poland.—Diseases of infancy and childhood, including mental retardation. Studies of malignant tissues and efforts to alter the structure and growth pattern of cancer cells.

Obligations by country

Country	1964 estimate	1965 estimate
India	$250,000	$250,000
Pakistan	563,700	150,000
United Arab Republic (Egypt)	320,000	250,000
Israel	350,000	322,000
Yugoslavia	15,000	211,496
Poland	837,000	150,000
Burma	458,000	50,000
Brazil	10,000	0
Total	2,803,700	1,383,496

Summary of collaborative research agreements currently being supported—Jan. 15, 1964, National Institutes of Health

BRAZIL

Studies on the pathophysiology of schistosomiasis in Brazil	$23,457
Study of venoms of snakes, spiders, and scorpions for therapeutic activity againt cancer	20,339
To obtain specimens of unknown or rare botanical materials accessible in this country and to carry out their chemical and pharmacological evaluation	21,195

EGYPT

Metabolic studies on anemias associated with parasitic infestations and malnutrition in adults	146,882
Studies on anemia in Egyptian infants and children	34,520
Hemodynamic studies in Egyptian adults with hepatospenomegaly and anemia associated with parasitic infection	25,286
Evaluation in man of suppressive, therapeutic, and prophylactic agents in Bilharziasis	98,602
Study of the interrelationships of ticks and of diseases affecting man and animals, chiefly in Africa, Asia, and Europe	41,000

INDIA

Research on vegetable protein supplements and protein malnutrition	788,637
Clinical, laboratory, and field studies on nutritional deficiencies in southern India	306,092
Comparative studies of adolescent problems and their resolution during the college years	42,016
Development of potential anticancer and antiviral agents	58,881
Study of distribution of cancer cases in 12 Bombay hospitals and generally throughout the States of Maharashtra and Gujarat	78,922
Investigation of viruses and vectors in the Indian environment	126,450

ISRAEL

An epidemiological study of hypertension and ischemic heart disease in a defined segment of the adult population of Israel	297,366
The development of sensitive methods of measurements of oxygen isotopes	69,681
The study of individual oligopeptide members of polyamino acid series	52,519
Study of toxoplasmosis in Israel	55,000
To study the effect of DNA and DNA nucleotides in the reactivation of immune responses	57,888
Cross-cultural comparisons of developmental processes in human infants	4,222

Summary of collaborative research agreements currently being supported—Jan. 15, 1964, National Institutes of Health—Continued

PAKISTAN

Epidemiology of malnutrition and relationship of nutrition to diabetes, anemia, and infectious diseases, such as cholera	$249, 726
To develop, improve, and demonstrate measures for the prevention and eventual eradication of cholera	360, 169
Biochemical studies of nutritional problems in East Pakistan especially as related to effect of fats and oils indigenous to East Bengal	92, 200

POLAND

Preconceptual causes of defects in children	106, 812
Study of clinical and laboratory characteristics of muscle disease	121, 687
Neuropathological studies of all forms of encephalitides in Poland	20, 928
Tissue-culture studies	45, 750
Histochemical research concerning arteries of the circle of Willis	20, 541
Isotope studies	51, 458
Investigation of functional organization of the brain	209, 622
The biology of brain tumors	163, 650
To establish population based cancer registers in selected areas of Poland	63, 750

YUGOSLAVIA

Study of the incidence of hypertension and coronary heart disease in newly industrialized populations	450, 000

COMMUNITY HEALTH

Objectives

The program which this estimate supports has four major objectives designed to further our progress in meeting the health problems of this country:

1. To evaluate and test control measures under conditions of higher prevalence than is present in the United States.
2. To provide more rapid evaluation of therapy under high prevalence conditions.
3. To study disease in other areas of the world to complement investigations currently being made in this country. Greater understanding of widespread health problems will be achieved through study under the many varying conditions that exist throughout the world.
4. To develop epidemiological and ecological information and diagnostic methodology to prevent the introduction of certain exotic diseases into this country and to contain these diseases should they be introduced.

The program is aimed at extending and improving our practical means of solving health problems. utilizing the efforts of well-qualified scientists of other nations as well as our own. In addition, the projects offer a valuable opportunity to strengthen our relations with other countries.

Program activities

Funds for scientific activities overseas were first made available to community health programs in fiscal year 1962. Since that time, 13 agreements have been worked out with 4 countries—India, Israel, Poland, and Yugoslavia. The amount of foreign currency, in terms of U.S. dollars, involved in these agreements totals $1,898,931. A summary of collaborative research agreements showing the type and scope of these projects appears on page 572.

Community health programs that have participated in the Public Law 480 program are the Division of Dental Public Health and Resources and the Communicable Disease Center. Other community health programs such as the Division of Accident Prevention and Chronic Diseases are planning projects for fiscal years 1964 and 1965 in Burma, Israel, India, and Egypt. The Communicable Disease Center and the Division of Dental Public Health and Resources will initiate projects in Israel, Pakistan, India, and Egypt.

The subject matter of these proposed projects ranges over the broad field of public health research. In the area of chronic disease, the projects will investigate various factors, such as diet and exercise, related to heart disease. Patterns of dental care, the epidemiology of oral cancer, motivations of dentists, and fluoridation and defluoridation of water supplies are proposed projects in the area of dental public health. In the communicable diseases, projects are proposed in the study and eradication of leprosy, the epidemiology of hepatitis, and studies of tuberculosis. The accident prevention program would like to study emergency medical care and traffic accidents, the relationships between physical defects and accidents, and the epidemiology of accidents among children.

Obligations by country

Country	1964 estimate	1965 estimate
Burma	$110,000	$125,000
India	290,000	800,000
Israel	496,000	1,192,000
Poland	0	325,000
Pakistan	150,000	125,000
Yugoslavia	32,000	125,000
Egypt	165,000	240,000
Total	1,243,000	2,932,000

Summary of collaborative research agreements currently being supported, Jan. 15, 1964, by the Bureau of State Services (Community Health)

INDIA	
Factors which influence the disposition of oral calculus	$84,571
Enterovirus etiology of central nervous system diseases and fevers of unknown etiology in children	482,180
Characteristics of India mycobacteria	381,437
ISRAEL	
Use of fluorescent antibody in the study of arbovirus infection in mosquitoes	13,050
Differentiation and characterization of mouse-virulent and arbovirus strains	82,371
Effect of dietary and occupational exposure to DDT under the climatic impact of a subtropical country	29,757
Evaluation of immunizing efficacy of Kelev strain rabies vaccine in cattle	77,566
Field study of arboviruses	212,766
Preparation of insect tissue cultures and its application to arbovirus research	70,966
POLAND	
Epidemiology and biology of trichinosis	245,750
Epidemiology of staphylococcal disease including studies on virulence of staphylococci	57,500
Insect-borne encephalitides	129,017
YUGOSLAVIA	
Determination of the relationship of leptospirosis in the etiology of endemic nephropathy (chronic renal disease)	32,000
Total	1,898,931

ENVIRONMENTAL HEALTH

The general objective of the research and operations that make up this program is to expand and improve means of solving environmental health problems. The increasing number and variety of environmental health hazards and problems requires the ingenious application of every applicable research methodology, skill, and talent.

Continued industrial development and economic growth in many countries in recent years has brought with it serious environmental health problems. These have at the same time opened research opportunities for studies of value to the country in which they will be carried out and to the United States.

Our plan in developing projects included in this program contemplates the exploitation of such research opportunities where program needs exist and where satisfactory relationships can be established with scientific and government personnel in the foreign country.

There are three current projects. These are (1) body transport and disposal of toxic chemicals, and biologic threshold value, Yugoslavia; (2) estimation and effect of carcinogenic material in airborne particulate matter collected in some cities of Poland; and (3) studies of the effects of the radioactive constituents of uranium ore on health of workers in Yugoslavia.

Plans for 1964 and 1965 include development of projects which will contribute to our mission of environmental health protection in the areas of air pollution. water pollution, milk and food sanitation, and occupational health. Proposed studies include basic investigations in toxicology of chemicals to which man is exposed through air, water, and food, in the home or at the workplace. Also proposed are studies of techniques for assessing and controlling environmental pollution associated with air, water, food, commercial practices, and industrial operations.

Obligations by country

Country	1964 estimate	1965 estimate
India	$320,000	$335,000
Israel	375,000	330,000
Poland	212,000	185,000
Yugoslavia	325,000	100,000
United Arab Republic (Egypt)	0	90,000
Total	1,232,000	1,040,000

NATIONAL LIBRARY OF MEDICINE

The library conducts a program under section 104(k), Public Law 480, designed to strengthen the international communication of information in the biomedical sciences. The library's foreign currency program is coordinated very closely with related programs of the Department of Health, Education, and Welfare, National Science Foundation, Atomic Energy Commission, and other Government agencies. Under a working agreement with the National Science Foundation, the National Library of Medicine retains programing responsibilities and uses existing contract mechanisms of the Foundation to procure many translation and scientific publication project services in Israel, Poland, and Yugoslavia.

Accomplishments in Israel during 1963 included the translation of six serial volumes, six monographs, and one article, all from the Russian language. In addition to continuing these translation activities, the library will initiate the preparation of a biographical directory, "European Men of Science—Medical Sciences." Under negotiation with the Israel Government are plans to establish two worldwide abstracting services. One would be in the dental research literature and the other would be in the field of drug toxicity. In addition, negotiations are underway with the Israel Government to compile a world directory of biomedical scientists.

Preliminary explorations and negotiations indicate that several scientific critical reviews, translations, and directories of Indian biomedical research resources can be prepared successfully.

In Poland, five new journals in the biomedical field were added to the previous list of five journals already being prepared in English; one monograph is in translation and several more are planned. Support for these journals will be continued in 1964 and 1965. In 1964 the library will initiate the preparation of critical reviews by Polish scientists in their areas of specialization.

Three journals were translated and published in Yugoslavia in 1963. Support for these journals will continue and several new publication projects are planned for implementation in 1965.

Obligations by country

	1964 estimate	1965 estimate
India	$8,000	$54,000
Israel	70,800	136,200
Poland	409,000	409,000
Yugoslavia	86,500	88,000
Total obligations	574,300	687,200

NATIONAL CENTER FOR HEALTH STATISTICS

The overseas research program of the National Center for Health Statistics will conduct studies of mutual interest to the countries concerned and to the United States. Activities wil focus on methods of analyzing mortality data, projecting population growth, improving knowledge of morbidity, and developing methods to analyze the effect of public health control activities.

As the low death rate becomes a decreasingly sensitive index for evaluating the health of populations, the United States has, in common with other countries throughout the world, a need to develop and improve morbidity knowledge, including acute and chronic diseases and disability. In this country the Center's program is currently in the process of collecting data from nursing homes, hospitals, and other institutions. Pilot experience in other countries can contribute to the success of this program. Similarly, the development of basic methods of measuring crude birth and death rates in other countries can aid our own work in the understanding of health related phenomena. Methodological work on the relationship between health and socioeconomic variables will benefit particularly from the experience gained in foreign studies.

In recent months the National Center for Health Statistics has advanced its contacts with representatives from Egypt, India, Pakistan, and Yugoslavia. Topics of interest to each of these countries have been agreed upon, and it is anticipated that contracts will be negotiated in due course. Recent discussions with representatives of most of these countries have stressed the need for methodological studies of birth and death rates in the absence of complete vital records registration.

It is hoped that in Egypt methods can be developed to more accurately use census information to estimate birth and death rates and that theoretical calculations can be developed to illustrate the effects of various public health control activities.

In India it is intended to conduct research on methods of measuring death and birth rates by survey methods or sample registration systems. Particular attention will be given to response errors and other factors necessary to achieve estimates sufficiently accurate for planning economic and social development.

An agreement with the Government of Pakistan was signed recently. This agreement provides for a project to develop estimates of population change and its components in an area where an effective system for registering births and deaths has not been developed or, as it exists, is seriously defective. Specific objectives include the development of reliable estimates of birth and death rates by population characteristics, the establishment of population survey techniques, and planning effective birth and death registration systems.

A visiting scientist agreement has been reached with the Government of Yugoslavia whereby a high level statistician already in the United States will be brought to the National Center for Health Statistics to discuss programs of possible mutual interest. Planning continues on contracts to conduct extensive studies on early mortality comparable to studies being made in the United States and other European countries, and on other health statistics items.

A summary of estimated obligations by country follows:

Country	1964 estimate	1965 estimate
Egypt	$100,000	$100,000
India	150,000	125,000
Pakistan	100,000	0
Yugoslavia	198,900	0
Total	548,900	225,000

NATIONAL HEALTH STATISTICS

WITNESSES

DR. FORREST E. LINDER, DIRECTOR, NATIONAL CENTER FOR HEALTH STATISTICS

THEODORE D. WOOLSEY, DEPUTY DIRECTOR, NATIONAL CENTER FOR HEALTH STATISTICS

LOUIS R. STOLCIS, EXECUTIVE OFFICER, NATIONAL CENTER FOR HEALTH STATISTICS

DR. LUTHER L. TERRY, SURGEON GENERAL

HARRY L. DORAN, CHIEF FINANCE OFFICER

JAMES F. KELLY, DEPARTMENT BUDGET OFFICER

Object classification

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
11 Personnel compensation:			
Permanent positions	1,933	2,428	2,578
Positions other than permanent	54	89	89
Other personnel compensation	39	59	53
Total personnel compensation	2,026	2,576	2,720
12 Personnel benefits	156	193	204
21 Travel and transportation of persons	181	300	303
22 Transportation of things	15	25	22
23 Rent, communications, and utilities	277	330	363
24 Printing and reproduction	91	103	95
25 Other services	528	588	598
Services of other agencies	1,700	1,712	1,742
26 Supplies and materials	44	55	56
31 Equipment	123	83	83
Subtotal	5,142	5,965	6,186
Deduct quarters and subsistence charges	2	2	2
Total obligations	5,140	5,963	6,184

Personnel summary

	1963 actual	1964 estimate	1965 estimate
Total number of permanent positions	339	379	388
Full-time equivalent of other positions	6	12	12
Average number of all employees	301	349	362
Employees in permanent positions, end of year	312	353	367
Employees in other positions, end of year	25	7	8
Average GS grade	6.8	7.5	7.5
Average GS salary	$6,573	$7,239	$7,247

Program and financing

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
Program by activities:			
National vital and health statistics (program costs, funded) [1]	4,998	5,963	6,184
Change in selected resources [2]	142		
Total obligations	5,140	5,963	6,184
Financing:			
Comparative transfers from other accounts		−14	
Unobligated balance lapsing	9		
New obligational authority	5,149	5,949	6,184
New obligational authority:			
Appropriation	5,150	5,949	6,184
Transferred to "Operating expenses, Public Buildings Service," General Services Administration (76 Stat. 728)	−1		
Appropriation (adjusted)	5,149	5,949	6,184

[1] Includes capital outlay as follows: 1963, $133,000: 1964, $97,000: 1965, $83,000.

[2] Selected resources as of June 30 are as follows: Unpaid undelivered orders, 1962, $282,000 (1963 adjustments, −$5,000): 1963, $419,000: 1964, $419,000: 1965, $419,000.

Mr. Lesinski. Dr. Linder, will you proceed?

INTRODUCTION OF DEPUTY DIRECTOR

Dr. Linder. I would like to introduce Mr. Woolsey, the newly appointed Deputy Director for the National Center for Health Statistics. Mr. Woolsey has spent his whole professional career in the area of health statistics and perhaps most notably he was the chief architect of the technical report that formed the foundation for the law which established the National Health Survey in this country. Mr. Woolsey is sitting at my left here.

General Statement

I have a general statement of our program which I will leave with the secretary and with your permission, I will make a brief summary.

Mr. Chairman and members of the committee, it is a pleasure to appear before you again to discuss the programs of the National Center for Health Statistics.

I should like to begin by reporting further success in tabulation work in our vital statistics activity. Two years ago I reported encouraging initial progress in this area. Last year I told you that we had made further improvements so that we were able to release both 1961 natality and mortality figures before the end of 1962. I also informed you that we hoped for similar improvements in the publication phase of this program. This improvement has now been accomplished. On December 19, 1963, we completed work on and sent to the Government Printing Office the entire content of "Vital Statistics of the United States" for 1962. I believe that this is the earliest date for this event in the 60-year history of the national vital statistics system.

The real significance of this event is not that we have bettered the record of prior years. Such an accomplishment is always to be desired, of course, but to be meaningful it must be associated with a more important goal. In the case of the National Center for Health Statistics, this goal is to put the results of our efforts into the hands of those who need them with a minimum of delay.

BUDGET FOR 1965

Turning now to our program plans for the budget year, the 1965 request includes an additional $45,000 for improvement in the development and evaluation program for vital statistics activities. It also includes an increase of $69,000 to complete plans for the statistical design of and development of an advanced data input system for the hospital discharge survey.

In fiscal year 1965 we are requesting $30,000 also to improve our program of assistance to States in two ways. First, we plan a small research program in the use of electronic computers and other data retrieval systems in the processing, storing, and retrieval of information in State offices. Second, we intend to begin an experimental program of direct assistance by the addition of three new statistical positions to our staff to assist with statistical analysis in those States most in need of this service.

The above increases are partially offset by a reduction of $39,000 in the health interview statistics program.

To carry out its total program in 1965, the budget estimate is $6,184,000. The details of this estimate have been provided in our justification.

I will try to answer any questions the committee might have with respect to this.

HISTORY OF THE CENTER'S ACTIVITIES

Mr. DENTON. This work you do was formerly carried out by the Census Bureau?

Dr. LINDER. Part of the work we do was formerly carried out by the Census Bureau. The other part was a new program created by the National Health Survey Act of 1956.

Mr. DENTON. And you have been doing this particular work since when?

Dr. LINDER. The last part, the new part was established in 1956. The part that was transferred from the Census Bureau was transferred, I believe, in 1946.

Mr. DENTON. You have not had a Bureau of National Health Statistics that long; have you?

Dr. LINDER. The present organization called National Center for Health Statistics was created in 1960.

Mr. DENTON. And who did that work before?

Dr. LINDER. It was done in the Public Health Service but in separate organizations and different parts of the Public Health Service.

VITAL STATISTICS WORK

Mr. DENTON. The amount available for 1964 is $5,963,000 and the request for 1965 is $6,184,000, an increase of $221,000 and nine positions. Now, you are requesting an increase to establish "a regular developmental and evaluation program for vital statistics." Just what do you mean by that?

Dr. LINDER. With reference to the vital statistics works, our basic source material is from the State health departments. They provide us with the material that goes into the input of our tabulations, so we are dependent upon the work in these 56 separate jurisdictions to provide us with the material. Now, these 56 separate vital statistics jurisdictions—the States, and there are a few independent cities in the system—have a whole series of problems which are very similar to our problems and we have worked with the States for over 60 years in a cooperative manner; a cooperative working with the States to build up a system which is uniform nationally in content and in quality.

This means that the States have always come to us for certain help and advice, and we have done certain work in cooperation with the States. At the moment, what is happening in the States is that more and more of the State health departments are being faced with the "computer problem," and they are turning to us for help, for guidance, for advising them on how to proceed with this particular problem; and what we propose to do under this small program is to do certain work which we can do centrally, which will be useful to the States and which will then relieve each of the 50 States of the problem of doing the same kind of work.

Mr. DENTON. And in the Center you use the computers to work them out?

Dr. LINDER. No; they will have their own computers but we will provide them with certain programs, certain of the programing materials. We will send people out to advise them on how the applications should be put in the computers.

Mr. DENTON. You keep a record of births and deaths and other vital statistics, do you not?

Dr. LINDER. We do not keep the records beyond the time it takes to tabulate them. The States keep the records permanently.

Mr. DENTON. What do you do with those records of births and deaths?

Dr. LINDER. We get a microfilm copy, tabulate them and destroy the records.

Mr. DENTON. You could do that on computers, could you not, very easily?

Dr. LINDER. We are doing it on computers; yes, sir.

Mr. DENTON. What are you doing that the States do not do?

Dr. LINDER. We put together a compilation of tabulations on a national basis, which is more detailed than any individual State would ever do and provides the uniform national figures for the whole United States.

Mr. DENTON. I see. The States give you the figures; then you make a national picture out of it, but you make it more elaborate and detailed than they do?

Dr. LINDER. That is right.

Mr. DENTON. How do you get the information?

Dr. LINDER. They do not give us the figures, Mr. Denton. They give us copies of the original document. On the original document is a lot of information. The States use some of this to serve their own purpose.

Mr. DENTON. You tabulate the causes of death from death certificates?

Dr. LINDER. That is right; we get a copy of the original document and we make much more elaborate tabulations on the national scale than any of the States.

Mr. DENTON. The length of life and things like that?

Dr. LINDER. Yes, it is our responsibility to establish official figures on this.

CONTRACT WORK

Mr. DENTON. Your justifications indicate that part of your work will be on contract. With whom do you make contracts?

Dr. LINDER. Well, we make a number of contracts. In this we are following the intent of Congress and the instructions of Congress when the National Health Survey Act was passed, which told us that insofar as feasible, we should use the facilities of other Government departments and that we might use the facilities of private contractors and individuals.

Mr. DENTON. What other departments do you use?

Dr. LINDER. The biggest agency we deal with is the Bureau of the Census. Now they do a lot of work for us, because they have a detailed and comprehensive network of field offices throughout the country and if we did not have them do it, we would have to create our own field organization.

Furthermore, they have a field processing office in Indiana.

Mr. DENTON. Yes; that is in my district.

Dr. LINDER. Oh, I did not know that. I knew it was Indiana.

Mr. DENTON. Yes.

Dr. LINDER. And they do some of our work there.

Mr. DENTON. I have seen them doing that work. It is the Census Bureau in an old quartermaster depot. They have taken it over. I saw them working on your statistics when I was there.

Now, how much do you pay them for that?

Dr. LINDER. I think the total contract with the Census—I cannot give you the precise figure; I think it is about a million and a half. I can give you the refined figure for the record.

Mr. DENTON. All right, put it in; your other contracts, too, if you will.

(The material referred to is as follows:)

Contracts negotiated through Feb. 29, 1964

Contractor	Description of work	Amount
Bureau of the Census	Conduct basic household interview survey	$1,025,000
Do	Supplemental surveys and development activities associated with basic household interview survey.	25,000
Do	Sample selection for the 2d cycle of the health examination survey.	40,000
Do	Preparatory work and field collection of data for the health examination survey.	95,000
Do	Maintenance of a master facility list of places providing medical and personal care for the health records statistics program.	29,700
Do	Completion of initial survey of places providing nursing and personal care.	32,800
Do	Followup field data collection on a survey of medical and dental care received during pregnancy	4,300
Do	Intercensal estimates of the population, 1950–59 to establish base figures for vital statistics rate computations.	6,000
Bureau of the Census (Jeffersonville, Ind.).	Code and keypunch natality data	107,000
Do	Code and keypunch mortality data	71,000
Bureau of the Census	Computer tape conversion	715
Do	Copy preparation services	5,000
Gallaudet College	Develop procedures and perform coding and keypunching on a vision impairment survey.	11,812
Stanford Research Institute	Continuation of methodological study on chronic conditions and associated disability.	40,951
University of Michigan	Evaluate variables related to accuracy of reporting in the household interview survey.	56,942
Bureau of Old Age and Survivors Insurance.	Furnish data on establishments providing medical and personal care for health records statistics program.	1,217
The Netherlands Institute for Preventive Medicine.	Continued work on study of mortality trends in the Netherlands.	600
Central Bureau of Statistics of Norway.	Continued work on study of infant mortality trends in Norway.	600
Prof. Dyre Trolle	Conduct study of perinatal mortality for Denmark	12,075
University of Wales	Conduct study of mortality trends in England and Wales, 1931–60.	6,500
Information for Industry, Inc	Conduct an institute on vital records management	3,200
Various individuals	Administer psychological examinations and reporting on results.	10,098
Division of Radiological Health, PHS.	Read X-rays from health examination survey	632

REIMBURSABLE WORK

Mr. DENTON. Do you have any income from other agencies?

Dr. LINDER. We do some reimbursable work, yes, sir.

Mr. DENTON. Is that in your justifications?

Mr. KELLY. No, sir, we treat all of the Public Health Service reimbursements just in one account, regardless of which item it is.

Mr. DENTON. Whereabouts is it?

Mr. KELLY. In the back part of the budget called Advances and Reimbursements. It does not show in the justifications.

HOSPITAL DISCHARGE SURVEY

Mr. DENTON. I see; all right. You are also applying part of the increase on the "hospital discharge survey." What is this?

Dr. LINDER. We have under design, under plan at the moment, a prospective survey in which we will get from a sample of hospitals throughout the whole country, a sample of the case records, of the patient records; and this sample will be brought to Washington and we will tabulate it so that we will be able to tell for the first time in this country national figures on who goes to the hospital, why they go to the hospital, how long they stay, eventually who pays the bill, how much the costs were. This is developing a sort of accounting base for the health insurance industry and all of the interests that are now concerned with hospital costs and hospital use.

Mr. DENTON. Now, is this something you are likely to be asking for funds to expand further a year from now?

Dr. LINDER. Yes, that is right.

Mr. DENTON. That is an honest answer. Just what will be the value of these statistics?

Dr. LINDER. Well, we think that hospital discharge statistics are the one big gap, the biggest remaining gap in the statistical background that we have in the United States. We are one of the few advanced countries in the world that do not have this kind of information. In Canada they had a 100 percent collection of hospital discharge records, just a year or so ago. In England they have a current continuing 10 percent collection of hospital discharge records.

Mr. DENTON. Do they show how long a person stays in a hospital or is it to show the extent of cures in the hospital, or what?

Dr. LINDER. It is more for administrative and policy usage than for medical audit usage.

Mr. DENTON. I have heard of cases where the doctors started a drive to get patients out of the hospitals so they will have room for more patients, and I have heard them say since they had so much insurance, people tend to stay in the hospital longer than they used to, and they had to try to get them out when they were well enough to go home. Does your survey cover that in any way, shape, or form?

Dr. LINDER. Well, we would have some figures on the last point. Especially we will have, eventually, the length of time that people stay in the hospital according to why they are in the hospital, what was done to them in the hospital, what age and sex they are, whether urban or rural, and eventually we will have for those groups of people which ones had hospital insurance and which did not, so you can make a judgment.

HOSPITAL INSURANCE

Mr. DENTON. I expect most everybody has some hospital insurance today—a great majority of the people do, let us put it that way.

Dr. LINDER. Well, I think about 71 percent now.

Mr. DENTON. That is remarkable, is it not, that that many people have hospital insurance now?

Dr. LINDER. Of course, this varies a lot by the age of the person. There is less insurance coverage, I think, in rural than in urban areas. There is less in the South than in the North. So while 71 percent of the total American people have some hospital insurance coverage, it is not uniform. It is varied and of course some of the coverage they have might be quite inadequate to the costs. This is the kind of question we can answer with this survey: What were the hospital costs and how much was paid by insurance?

Mr. DENTON. Of course, you would not attempt to rate the insurance companies, or insurance policies, would you?

Dr. LINDER. Well, that is not our function.

Mr. DENTON. Probably none of it is completely adequate.

Mr. KELLY. But his report would tell you how much of the total hospital bill was paid by insurance, which would be important knowledge to have.

ELECTRONIC DATA-PROCESSING EQUIPMENT

Mr. DENTON. Now, the other part of the increase is to help the States in the application of electronic data-processing equipment. I think you spoke of that. Are there not several companies willing and anxious to do this work at no cost to you?

Dr. LINDER. Yes, sir, they can get salesmen to come in and the salesmen will do everything for them but not necessarily to the best interest of the customer.

Mr. DENTON. Why?

Dr. LINDER. Because they have the interest in selling a maximum amount of equipment. They do not have any interest in making the utilization most efficient; but furthermore, they do not really understand the application. I have on my desk now a request from the State health department in Michigan that asks us to work with them advising them on what kind of equipment they ought to get, how much equipment they ought to get, to help them train their people, and to help them make the transfer over into computer application. Now we have been through this course, you see.

Mr. DENTON. You will not let them oversell; that is about all you do there, that the company would not do?

Dr. LINDER. We would have much more technical experience on the kind of application that the health departments are evolving.

Mr. DENTON. Give me an example of that.

Dr. LINDER. Well, if the application, let me say, was a payroll application, the companies have so many payroll applications that they know the technique of this quite well. But if the application is, let us say, how to code causes of death on a computer, there is no experience at all in this sort of thing in the country. It is just beginning to be the kind of thing we are working on, and the tabulation of vital statistics, exactly what kinds of equipment are needed and how to maximize the efficiency of it, we have been through that course. We have been through that in the last couple of years, because we just transferred our own work over to this, so they look to us for a lot of of guidance on this. There are a large number of States involved and they are all going to face this problem very soon.

Mr. DENTON. Mr. Lesinski?

VOLUME OF QUESTIONNAIRES

Mr. LESINSKI. I have no questions, really; but I hear complaints about the fact that people are always being asked to answer questions on questionnaires, which they do not like. They do not mind answering a few, but a lot of them is no good. From what you have told us, your statistics come from the States only?

Dr. LINDER. Only the vital statistics. Now, the health statistics are collected by the Census Bureau for us. But with reference to asking too many questions, I am very happy to tell you that in our questionnaire work with regard to health statistics, we have less than 1 percent of the people that do not want to cooperate.

Mr. LESINSKI. Well, that is commendable but the point I am driving at is that businessmen and others are beginning to scream it takes all their time to answer these questionnaires, and they can't get the rest of their work done. They are kind of disturbed about it, and I am disturbed because it is true. There is a lot of waste of time answering questions.

But with the Census Bureau there are so many fields they can very well cover a broad number of subjects and therefore ask fewer questions and have fewer questionnaires.

That is all.

Mr. DENTON. Thank you, Dr. Linder.

JUSTIFICATION MATERIAL

(Following is the justification material submitted to the committee:)

NATIONAL HEALTH STATISTICS

Amounts available for obligation

	1964	1965
Appropriation	$5,949,000	$6,184,000
Comparative transfers from "Salaries and expenses, Office of the Surgeon General"	14,000	
Total	5,963,000	6,184,000

Obligations by activity

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Vital statistics	194	$2,000.000	196	$2,077,000	+2	+$77 000
Health interview statistics	44	1,678,500	44	1,661,600	0	−16,900
Health examination statistics	69	1,217,000	69	1,246,700	0	+29,700
Health records statistics	43	693.100	46	782,500	+3	+89.400
Health statistics analysis	15	197,500	15	200.000	0	+2,500
Professional and technical assistance	14	176.900	18	216,200	+4	+39.300
Total obligations	379	5,963,000	388	6,184,000	+9	+221,000

Obligations by object

	1964 estimate	1965 estimate	Increase (+) or decrease (−)
Total number of permanent positions	379	388	+9
Full-time equivalent of all other positions	12	12	
Average number of all employees	349	362	+13
Number of employees at end of year:			
Permanent positions	353	367	+14
Other	7	8	+1
11 Personnel compensation:			
Permanent positions	$2,428,000	$2,578,000	+$150,000
Positions other than permanent	89,000	89,000	
Other personnel compensation	59,000	53,000	−6,000
Total, personnel compensation	2,576,000	2,720,000	+144,000
12 Personnel benefits	193,000	204,000	+11,000
21 Travel and transportation of persons	300,000	303,000	+3,000
22 Transportation of things	25,000	22,000	−3,000
23 Rent, communications, and utilities	330,000	363,000	+33,000
24 Printing and reproduction	103,000	95,000	−8,000
25 Other services	588,000	598,000	+10,000
Services of other agencies	1,712,000	1,742,000	+30,000
26 Supplies and materials	55,000	56,000	+1,000
31 Equipment	83,000	83,000	
Subtotal	5,965,000	6,186,000	+221,000
Deduct quarters and subsistence charges	−2,000	−2,000	
Total obligations by object	5,963,000	6,184,000	+221,000

Summary of changes

1964 enacted appropriation	$5,949,000
Comparative transfers	14,000
Total estimated obligations, 1964	5,963,000
1965 estimated obligations	6,184,000
Total change	+221,000
Increases:	
Built-in:	
1. Increased pay costs (annualization):	
Postal Services and Federal Employees Salary Act of 1962 (Public Law 87–793)	88,000
Uniform Services Pay Act of 1963 (Public Law 88–132)	3,000
	91,000
2. Annualization of 14 new positions authorized in 1964 and related benefits	35,000
Subtotal, mandatory increases	126,000
Program increases:	
Establishment of a regular developmental and evaluation program for vital statistics (2 positions)	45,400
Continued development of health records statistics program, particularly that portion which relates to the implementation of a hospital discharge survey (3 positions)	68,500
Professional and technical assistance to States requesting help on their vital and health statistics activities including research directed toward the application of electronic data processing and other data retrieval systems (4 positions)	30,100
Subtotal, program increases	144,000
Gross increases	270,000

Decreases:	
1 less day of pay above 52-week base	−10,000
Nonrecurring contractual services associated with the health interview statistics program	−39,000
Subtotal, decreases	−49,000
Total net change requested	221,000

EXPLANATION OF CHANGES

Vital statistics, $45,400.—The requested increase for developmental and evaluation activities will be focused in 1965 upon the development of new computer input systems leading to the automatic coding of basic data now coded by hand and to other improvements in processing. Two new research oriented positions and several contracts comprise the estimate.

Health records statistics, $68,500.—During 1964 advance planning will continue on a survey to obtain detailed information on hospital care for a sample of discharged persons. In 1965 the hospital discharge survey requires additional resources to continue work on the development of a modern and efficient method for gathering and processing data, to make advance arrangements for hospitals in the sample, and to conduct several pretests. Three new positions are included in the request.

Professional and technical assistance, $30,100.—The requested increase will be utilized primarily to assist the States in the reporting, recording, indexing, processing, and retrieval of information on vital events. Some States require immediate assistance if they are to supply timely and reliable data both to State users and to the National Center for Health Statistics. Many States acknowledge a need for expert assistance in the application of electronic computers and other data retrieval systems to vital and health statistics. Four new positions and additional computer services are the principal components of this request.

Health interview statistics, —$39,000.—Nonrecurring contracts explain the reduction in the level of this program. Developmental activities, now at a high level, are estimated to require less financing since this porgram has achieved a relative degree of maturity. Also reflected is a temporary reduction in the level of special statistical studies.

Explanation of transfers

	1964, estimate	1965, estimate	Purpose
Comparative transfers from: "Salaries and expenses, Office of the Surgeon General."	+$14,000	0	This transfer provides for the funding of accounting point services provided at headquarters. Reimbursement will be made to the service and supply fund.

National health statistics

	Budget estimate to Congress	House allowance	Senate allowance	Appropriation
1962	$4,642,000	$4,642,000	$4,642,000	$4,642,000
1963	5,250,000	5,150,000	5,150,000	5,150,000
1964	5,949,000	5,949,000	5,949,000	5,949,000
1965	6,184,000			

Justification by activity—National vital and health statistics

	1964 estimate		1965 estimate		Increase or decrease	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits:						
Vital statistics	194	$1,232,500	196	$1,279,100	+2	+$46,600
Health interview statistics	44	320,600	44	327,100	0	+6,500
Health examination statistics	69	634,500	69	657,400	0	+22,900
Health records statistics	43	315,600	46	360,800	+3	+45,200
Health statistics analysis	15	141,400	15	143,900	0	+2,500
Profession and technical assistance	14	124,400	18	155,700	+4	+31,300
Total, personnel compensation and benefits	379	2,769,000	388	2,924,000	+9	+155,000
Other expenses		3,194,000		3,260,000		+66,000
Total, national vital and health statistics		5,963,000		6,184,000		+221,000

GENERAL STATEMENT

The National Center for Health Statistics is the Federal Government's principal source of information for general-purpose vital and health statistics. It is the Nation's only barometer in these areas which gives comprehensive national figures.

The Center systematically collects and publishes national vital statistics data on a monthly and annual basis, relating findings to population bases and other indexes, and providing accurately defined statistics that can be readily used by research program personnel in numerous areas of public health. The Center also has responsibility for conducting nationwide surveys covering a wide variety of health related topics.

The revision of the Center's publications program, mentioned in its justification for 1964, has been largely completed. A new unified series of publications has replaced a variety of previous reports, the time schedule of the large annual vital statistics publications has been brought up to date, and the distribution lists have been completely reconstructed. Significant progress in recruiting qualified statisticians through the inauguration of a junior professional training program has been made. Several contracts have been let to investigate the problems involved in vital data transmission and processing. Through these contracts it is hoped that modern computer techniques will be developed to match records from different sources and to code records more speedily.

This justification for the first time puts the budget on a performance basis rather than on an organizational basis. This form of budgeting. recommended by the Commission on Organization of the Executive Branch of the Government and now in use by many agencies, has been a goal of NCHS for some time. It discusses needs in terms of major program objectives. All activities contributing to such objectives are justified together rather than as parts of the organizational units which carry them out.

The narrative justification which follows outlines the Center's requirements within six major program areas. Most of these programs are related to identifiable organizational counterparts in previous justifications, but the amounts shown for any program now include many items of expense that were previously justified separately.

The 1965 estimate, an increase of $221,000 over 1964, is directed largely toward the fulfillment of previously established goals. Aside from built-in items, increases are requested to develop means by which recent technological advances can be applied to the processing of vital data, to develop a modern and efficient means to conduct a hospital discharge survey, and to provide assistance to State vital registration systems.

Vital statistics

1964	$2,000,000
1965	2,077,000
Increase	+77,000

The individual States have primary responsibility for maintaining registration systems for vital events. State laws govern the data requirements of vital registration certificates, provide for the enforcement of registration, and determine many of the procedures to be followed in State offices.

Through cooperative efforts with the States, the Center administers a vital statistics program for the improvement and standardization of vital registration systems and for the analysis and publication of national data.

The increasing use of vital statistics in both medical and demographic research has made it necessary constantly to improve their quality and timeliness. It has required the Center to seek more effective means by which data can be utilized for special analytical purposes quickly and at minimum cost. Demands are high for detailed data on cancer and cardiovascular ailments, and constant requests are received to investigate the statistical evidence supporting research hypotheses in such areas as food and environmental poisoning, congenital malformations, and diseases of uncertain cause or prevalence.

Demographic research has also grown rapidly as it is realized that more and more population and related environmental factors bear a relationship to health status. Research in this area is highly complex because the problems are often difficult to identify and define within a rapidly growing and highly mobile population.

During the past several years there has been a marked improvement in the quality and timeliness of vital statistics publications. Better progress reporting and the introduction of electronic data processing have had a significant impact. With many of the problems associated with basic processing operations now under control, more emphasis can be given to those activities providing more long-range improvements in the vital statistics program.

The requested increase for 1965 will be largely directed toward the establishment of a regular developmental and evaluation program. For many years very little was been done in this area, and it has been only in the last few months that several important contracts were negotiated. These studies protect the integrity of the organization's product and provide the answers to difficult methodological and procedural questions. There is now in progress a systems engineering study to determine the feasibility of using new computer input systems leading to automatic coding of basic data now coded by hand and to other improvements in current procedures. Thus far the results of the study have been very encouraging. Recent advances in basic electronic research should ultimately enable the Center to develop systems that have previously been beyond technical capability.

Over the next several years considerable developmental work will be required to implement this objective. As success is achieved on an experimental basis and as the program demonstrates its economic feasibility, the new data input systems will be extended. The amount of increase requested for this work in 1965 is $45,400. Two new positions are requested to assist in these developmental activities.

Other changes from the 1964 base program include $8,000 for the annualization of positions new in 1964, and $28,100 for the annualization of the second step of the pay act. This is offset by a reduction of $4,500 resulting from one less day of pay.

Health interview statistics

1964	$1,678,500
1965	1,661,600
Decrease	—16,900

The National Health Survey Act of 1956 (Public Law 652, 84th Cong.) provided that the Public Health Service initiate "a continuing survey and special studies to secure on a noncompulsory basis accurate and current statistical information on the amount, distribution, and effects of illness and disability in the United States and the services received for or because of such conditions * * *." This act was first implemented through what is now identified as the health interview statistics program. The program is based upon a continuing nationwide sample that includes, on an annual basis, 42,000 households including approximately 134,000 persons.

The Bureau of the Census, under reimbursable contract, provides a major share of the personal services required for this survey since it is responsible for the function of managing and conducting field interviews. It also provides for the selection of the population sample, the hiring and training of interviewers, and the coding and editing of interview schedules.

Work performed within the Center includes a great deal of developmental and evaluative research, the drafting of all specifications for the survey, including the selection of topics to be studied, design of tables, computer programing, tabulation and checking of coded data, professional analysis, report preparation, and publication of findings.

In the past year 10 reports were published giving new data on such topics as chronic conditions causing activity limitation, impairment by etiology, acute conditions, medical and dental X-ray visits, persons injured according to class and type of accident, and personal health expenditures. In 1965 it is anticipated that the declining work on special activities such as the vision followup study will reduce requirements by $20,000. A shift of emphasis in the developmental and evaluation activities from the health interview statistics program to other survey-type programs will reduce program requirements by another $25,000. This is partly counterbalanced by a $6,000 increase in the cost of processing the basic data obtained in the regular household interviews. The net reduction in program requirements is $39,000.

Built-in changes in this program include an increase of $23,300 for the annualization of the second step of the pay act and a reduction of $1,200 associated with one less day of pay.

Health examination statistics

1964	$1, 217, 000
1965	1, 246, 700
Increase	+29, 700

Health examination statistics is the second program implementation of the National Health Survey Act. It is designed to measure by objective means the prevalence of selected disease categories of the noninstitutionalized population through direct examinations, clinical tests, and other measurements.

The plan of the health examination statistics program is to study specific segments of the population in separate studies known as cycles. In each cycle, 6,000 to 8,000 individuals are examined in their home communities by members of the staff of the National Center for Health Statistics.

The first cycle, which dealt with the adult population, was carefully selected to represent the entire civilian, noninstitutionalized population of the United States, age 18 to 79. Facilities in mobile trailer caravans permitted careful physical and dental examinations including X-rays, electrocardiographic readings, tests of hearing ability and visual acuity, a glucose tolerance test, body measurements, and other indicators of health. Caravans visted 42 locations and 6,672 persons were examined. Over 86 percent of the persons falling within the sample participated. The data from the examinations has been coded and punched and is now being analyzed and assembled for publication. It is expected that a large proportion of the publications on the first cycle will be finished before the end of fiscal year 1965, but the enormous body of data collected in this first cycle will continue to be exploited over many years.

The second cycle, an examination of children 6 to 11 years of age, began its field activities in July 1963. It is chiefly directed toward growth and development. The examination process includes various anthropmetric measurements of bone structure and body development. Chest and hand X–rays are taken, and a dental examination determines the prevalence of malocclusion and other dental defects. Strength is measured on a bicycle ergometer and a hand dynamometer. Tests of vision and hearing are administered, and a standard physical examination is given which includes an electrocardiogram. A battery of phychological tests measuring both intellectual ability and personality is another important aspect of the examination process.

The program planned for 1964 anticipates that field data collection costs will reach their maximum since full operation is planned for the entire year. Costs of data processing and analysis will continue to grow beyond the levels reached in 1963, and it is anticipated that contracts providing for the evaluation of the results of the first cycle and for methodological work in the second cycle will be negotiated.

In 1965, both field data collection costs and headquarters activities will continue at about the 1964 level. Computer rental costs are expected to increase by $11,000 as more material is prepared for tabulation. Several decreases, however, will offset this increase. Transportation of things will be down $3,000 because the stands scheduled for the latter portion of the second cycle are more closely clustered than those scheduled for 1964. Nonrecurring costs of data collection forms should net $8,000 in additional savings.

Adjustments in the cost of operating this program include increases of $20,200 for the annualization of the second step of the civil service pay act, $2,700 for the uniform services pay act, $9,000 for the annualization of three new positions authorized in 1964, and a decrease of $2,200 for 1 less day of pay.

Health records statistics

1964	$693,100
1965	782,500
Increase	+89,400

Existing records maintained by public and private health organizations contain a vast array of statistical data needed by public health workers. These records can often be used as an inexpensive means of locating individuals with health problems or of studying the health status of particular segments of the population. However, these data have been difficult to obtain, use, and interpret since record formats differ, information is often fragmentary, and there has been no method by which the selected sample could be reliably related to the population group under study.

Recognizing the vast need for data and an efficient method for obtaining it, the component organizations of the National Center for Health Statistics developed several techniques of great flexibility designed to satisfy a wide variety of statistical requirements. One approach was through an extension of the utilization of the complete birth and death registration files. The other approach was to make a complete list of places possessing medical records and to establish procedures whereby these records could be used to obtain statistical data.

For about 7 years follow-back surveys based on vital registration files have been conducted. Since the work was financed largely through reimbursement contracts, it was difficult to maintain the surveys on a regular basis and to obtain information of greatest general value. Recently, work has been regularized and a continuing annual cycle of mortality and natality surveys will soon reach full development with appropriated fund support.

The health records survey—the third major data collection mechanism covered by the National Health Survey Act—utilizes records maintained by hospitals, clinics, nursing homes, and other institutions. During the last several years there has been prepared a comprehensive list of establishments providing medical and personal care. This master facility list now contains 45,000 names and addresses. It provides both a direct source of statistical information and a frame from which various types of samples can be drawn.

Several projects are now underway that are based upon samples selected from the master facility list. Substantial progress has been made on a mail survey of resident places which provide nursing, personal, and domiciliary care of the aged, infirm, and chronically ill. A second phase of this survey involving personal visits to these places is ready for field data collection. Planning is also underway on other surveys covering various parts of the population confined to institutions. While this population is small, the institutions tend to be reservoirs of serious disability.

The initiation of a hospital discharge survey has been one of the major objectives of the health records survey. Its establishment had to await completion of the master facility list and substantial research into the type and completeness of records maintained in hospitals and their availability for statistical sampling purposes. The increasing importance of hospital care in the total pattern of medical care in the United States warrants a major effort to collect statistics on discharged patients through nationwide sampling on a continuing basis. Types of data needed include detailed regional information on diagnoses, operations, other hospital services, and hospital charges and sources of payment for hospital care by age, sex, length of stay, and other variables. The United States is currently far behind many of the highly developed countries of the world in the area of statistics on hospital patients. The program is incorporated in these plans would be designed to bring this country up to date in this field.

The primary element of change in 1965 will be the hospital discharge survey which will be a continuing and increasing activity. Some methodological work has already been done on this survey, but during the remainder of 1964 and 1965 efforts will be focused on its statistical design and on the development of an advanced type of data input system. Since this is a new survey, it seems proper to devote considerable effort to insure that the most modern and efficient means are used to gather and process the data. Consequently, the Center is now exploring the use of input data more compatible than traditional methods with the technological advances of modern computers.

Program increases totaling $68,500 are requested for 1965 to implement the developmental work described above, to make advance arrangements with hospitals participating in the sample, and to conduct several pretests. A miniature pilot study may also be started. Two new statisticians and one digital computer programer are required to accomplish these tasks.

"Built-in" adjustments to the 1964 program base include $11,000 for the annualization of positions new in 1964, and $10,800 and $300 respectively for the annualization of the civil service and uniformed services pay acts. One less day of pay reduces the "built-in" changes by $1,200.

Health statistics analysis

1964	$197,500
1965	200,000
Increase	+2,500

Upon the recommendation of the Study Group on Mission and Organization of the Public Health Service, an Office of Health Statistics Analysis was established in the Center at the time of its creation in August 1960. This Office is responsible for the analysis and interpretation of health and vital statistics from many sources and in much greater depth than is possible in the topical presentations of the more production-oriented statistical programs of the Center.

Since its establishment, the Office of Health Statistics Analysis has conducted or initiated a variety of analytical studies on the health status of the population and on the total impact of health programs and activities on the Nation's healh. Several projects designed to measure mortality trends in a selected number of advanced countries have been launched in the expectation that through analytical comparisons the United States may more thoroughly understand recent changes in mortality trends.

In addition, the Office provides guidance to the medical and public health profession on problems associated with disease classification and represents the U.S. position in the international discussions relating to the periodic revision of the International Classification of Diseases.

The selection of a competent, professionally balanced staff has been essentially completed, and a wealth of data obtained through contracts is becoming available for concentrated analysis. New contracts to continue international collaborative studies are planned with the special objective of exploring reasons why other advanced countries have substantially lower infant mortality rates than the United States.

The program planned for 1965 will continue at approximately the level attained in 1964.

"Built-in" changes reflected in the program include $3,000 for the annualization of the second step of the pay act. This is partially offset by a decrease of $500 for 1 less day of pay.

Professional and technical assistance

1964	$176,900
1965	216,200
Increase	+39,300

Professional and technical assistance includes a variety of functions designed to strengthen and improve international, State, and professional relationships in the field of health statistics.

It involves dealings with State and local governments, educational institutions, international organizations, and citizens and representatives of foreign governments. In the area of State and local relations, this program provides secretariat service for a biennial meeting of the Public Health Conference on Records and Statistics, evaluates and makes recommendations regarding proposed study groups of the Conference, plans and implements a series of regional institutes, and prepares training material of interest to the States. Consultation is provided educational institutions in their development of public health curriculum and in familiarizing students and staff with the programs and data of the National Center for Health Statistics.

The requested increase will be utilized primarily to assist the States in the reporting, recording, indexing, processing, and retrieval of information on vital events. The burden of these activities threatens to affect the States ability to provide vital information, to analyze properly their own data, and to supply timely and reliable data for use of the National Center for Health Statistics. Because the Center is concerned with the integrity of the data which go into its statistical products and because of its role in developing the national vital statistics system, it is the agency to which the States look for help in the solution of their problems. During 1965 two kinds of assistance are planned.

The first of these is an experimental program of direct assistance under which three new statistician positions would be added to the staff for the purpose of providing additional resources to those States most in need of assistance. The estimated cost of this program in 1965 is $13,500.

The second area of assistance is research in the application of electronic computers and other data retrival systems. Many States have installed or are considering the installation of computers, and there is increasing pressure for the Center to assume leadership in advising States on their application to health-related, data processing problems. Likewise, there is a growing need for assistance in handling the huge volume of vital records that require filing, storage, and retrieval in State offices. One new digital computer programer and an increase of $16,000 in research funds requested for 1965 will allow the beginning of studies in these fields.

Other increases requested for 1965 include $2,600 for the annualization of the second step of the pay act and $7,000 for the annualization of positions new in 1964. One less paid day reduces costs by $400.

New positions requested fiscal year 1965

	Grade	Position	Annual salary
Vital statistics:			
Systems analyst	GS-13	1	$11,731
Digital computer systems operator	GS-7	1	5,803
Subtotal		2	17,534
Health records statistics:			
Statistician	GS-13	1	11,731
Digital computer programer	GS-11	1	8,424
Statistician	GS-7	1	5,803
Subtotal		3	25,958
Professional and technical assistance:			
Digital computer programer	GS-11	1	8,424
Statistician	GS-7	2	11,606
Statistician	GS-5	1	4,701
Subtotal		4	24,731
Total new positions, all activities		9	68,223

NATIONAL LIBRARY OF MEDICINE

WITNESSES

DR. MARTIN M. CUMMINGS, DIRECTOR, NATIONAL LIBRARY OF MEDICINE
SCOTT ADAMS, DEPUTY DIRECTOR
RAY W. GRIM, EXECUTIVE OFFICER
DR. LUTHER L. TERRY, SURGEON GENERAL
HARRY L. DORAN, CHIEF FINANCE OFFICER
JAMES F. KELLY, DEPARTMENT BUDGET OFFICER

Object classification

[In thousands of dollars]

		1963 actual	1964 estimate	1965 estimate
	PUBLIC HEALTH SERVICE			
11	Personnel compensation:			
	Permanent positions	1,359	1,620	1,729
	Positions other than permanent	13	6	6
	Other personnel compensation	11	24	18
	Total personnel compensation	1,383	1,650	1,753
12	Personnel benefits	106	126	134
21	Travel and transportation of persons	19	25	25
22	Transportation of things	4	3	3
23	Rent, communications, and utilities	120	141	115
24	Printing and reproduction	103	152	169
25	Other services	925	600	855
	Payments to National Institutes of Health management fund	339	345	350
26	Supplies and materials	66	82	88
31	Equipment	242	952	133
41	Grants, subsidies, and contributions	6	------------	------------
	Total, Public Health Service	3,313	4,076	3,625
	ALLOCATION TO LIBRARY OF CONGRESS			
11	Personnel compensation: Other personnel compensation	4	4	4
24	Printing and reproduction	4	4	4
	Total, Library of Congress	8	8	8
	Total obligations	3,321	4,084	3,633

Personnel summary

	1963 actual	1964 estimate	1965 estimate
Total number of permanent positions	243	268	281
Full-time equivalent of other positions	2	1	1
Average number of all employees	224	251	264
Employees in permanent positions, end of year	237	260	273
Employees in other positions, end of year	1	0	0
Average GS grade	6.5	6.9	6.9
Average GS salary	$6,146	$6,538	$6,498

Program and financing

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
Program by activities:			
Library services and resources (program costs, funded) [1]	2. 551	4. 561	3, 533
Change in selected resources [2]	771	−477	100
Total obligations	3, 321	4. 084	3. 633
Financing:			
Comparative transfers from other accounts		−10	
Unobligated balance lapsing	14		
New obligational authority (appropriation)	3. 335	4. 074	3. 633

[1] Includes capital outlay as follows: 1963, $204,000; 1964, $98,000; 1965, $133,000.

[2] Selected resources as of June 30 are as follows: Unpaid undelivered orders, 1962, $1,227,000 (1963 adjustments, −$1,020,000; 1963, $977,000; 1964, $500,000; 1965, $600,000.

Mr. Denton. We are glad to have you here, Dr. Cummings. You were here with the foreign currency program last year. We are having quite a time figuring out why you have not obligated more money in that.

Dr. Cummings. I can tell you with some pride the unobligated balance in the National Library of Medicine Public Law 480 foreign currency program was only $2,379 last year. This small operation is obligating its funds.

Mr. Denton. Are you doing pretty good work with Poland and Yugoslavia and Egypt?

Dr. Cummings. There are very good translation programs in Poland, Israel, and Yugoslavia.

General Statement

Mr. Denton. You may proceed with your statement.

Dr. Cummings. It is a pleasure to appear before this committee in my new capacity as Director of the National Library of Medicine. In this period of revolutionary changes brought about by the unprecedented growth and progress of scientific research, all institutions, including the library, are faced with major challenges relating to the needs for improved mechanisms of management of the scientific literature. The library has responded to these needs through its development of a computerized information storage and retrieval system known as Medlars (medical literature analysis and retrieval system).

Mr. Denton. Will you explain that a little bit more?

MEDLARS

Dr. Cummings. Medlars is an acronym for medical literature analysis and retrieval system. It involves the analysis of the scientific literature and the storage of citations on magnetic tape for rapid retrieval and dissemination to physicians and scientists throughout the country. I am happy to report——

Mr. Denton. After you put it on magnetic tape, what do you do with it?

Dr. Cummings. The magnetic tape is then filed for rapid recall. "Demand search" is the term we use when a physician or scientist wishes to get the information out of the system. We provide specific references to physicians and scientists on request through their own libraries. Perhaps I should show you an example of what medlars produces. Medlars became operational on the 1st of January of this year, Mr. Denton. On the 3d of January we produced the first volume of the Index Medicus, which has been done previously for many years through a slower process. Index Medicus provides the references to the world biomedical literature at monthly intervals. The computer prints out the citations by subject heading, by author, or by journal.

In addition to the medlars production of 12 volumes of Index Medicus, each year, here is an example of the retrieval of bibliographic information in a specific research area [handing Mr. Denton a document]. In this case a physician requested references to the world's literature on tumor development in mice. This bibliography is the type of product which medlars is now able to print out. We package this, send it to the physician or scientist for his use. From this he knows where to go to find the articles dealing with this particular subject.

Mr. Denton. Does he not have to cut this down a litle bit? Does he have to go through this entire volume?

Dr. Cummings. If he asks a broad question, he gets a big package of information. If he asks a sharp, limited question, we can narrow it down for him. This example happens to cover a very large and important area: tumor development. This question was asked us by the National Cancer Institute. They got a large list of references. If they wanted to know about treatment of tumors in mice with a specific drug, the computer printouts would be much smaller because the pertinent literature is smaller.

Mr. Kelly. Mr. Denton, they are going to train people to sharpen up their requests.

Dr. Cummings. We shall, Mr. Kelly. We are going to be forced to do that.

I should like to tell you that medlars has the capacity to produce about 37,000 responses to questions of this sort each year, to produce 12 volumes of the Index Medicus, and in addition to produce and print 150 recurring bibliographies. This last means if an institution, physician, or scientist wanted to know each month what has been published, say, in the field of heart disease, he would get a regular printout every 30 days of the new literature references in that particular field.

Whereas we believe that the input into medlars must be centralized so that there can be quality control and certain standards applied, we believe that the retrieval capacity of this system should be decentralized. That is to say that duplicates of our magnetic tapes can be produced, provided to universities, research institutes, medical school libraries, so they may then have the same retrieval power that we have built into the National Library of Medicine. For this purpose we have asked for $250,000 to convert our magnetic tapes and reprogram our medlars input and to test its use by other noncompatible computer systems. However, the total budget requested for the next fiscal year is $451,000 less, now, than the current budget.

Mr. Denton. I thought it was $441,000.

Dr. Cummings. I have $441,000. The difference of $10,000 relates to a transfer from the Office of the Surgeon General for decentralization of accounting point activities.

Mr. Denton. That is the $10,000 transferred from the Surgeon General?

Dr. Cummings. Yes, sir.

Mr. Denton. Go ahead.

REFERENCE SERVICES

Dr. Cummings. I do not want the committee to think that the Library is something called medlars. We do other things, Mr. Chairman. Our reference services, for example, have increased by 30 percent during the past year.

Mr. Denton. How many people write in to you in a year?

Dr. Cummings. I believe we had 20,000 requests for information last year.

The number of readers working and using our facilities has increased by 86 percent. The number of reader requests which we could fill has increased by 49 percent. Our interlibrary loans have increased by 19 percent and the number of photo-duplicated orders has increased by 20 percent. These increased services have been provided, I should say, without a commensurate increase in personnel.

ACQUISITION PROGRAM

Our acquisition program continues its work of keeping the Library's collection up to date on a worldwide basis with an increase of 83,900 additions to the collection last year. We would like to be able to continue to say that the United States has the best holdings, the world's greatest collection in the National Library of Medicine.

Mr. Denton. You think they do now, do you not?

PUBLICATION SUPPORT PROGRAM

Dr. Cummings. Yes, sir; I believe that we do. In the Library's extramural activities, its publications support program last year was given the assignment of serving as a principal resource within the Public Health Service for improving international exchange of information.

This program contracts for the production of critical reviews, bibliographies, abstracts, and translations, and several other reference tools such as directories. The foreign publications program discussed earlier uses Public Law 480 funds operating principally in Poland, Yugoslavia, and Israel. Here we support the production and translation of scientific documents of interest to the American scientific community. The program is negotiating a contract with the World Health Organization to finance a study designed to compile and maintain worldwide data on biomedical personnel resources and facilities. The National Library of Medicine intends to work closely with other elements of the Public Health Service in the development of new action programs designed to correlate the delivery of scientific information with the increased production of scientific knowledge generated by research.

I will be pleased to answer any questions.

LIBRARY BUILDING

Mr. Denton. I went through the Library about a year ago; and it certainly is a great improvement over the building you had down here on Independence Avenue.

Dr. Cummings. Yes, it is.

Mr. Denton. I think you can be proud of the building and I would recommend most anybody going through it. My wife went through it and she was very pleased with what she saw, too.

Dr. Cummings. We have 4,000 or 5,000 visitors each year.

Mr. Denton. I direct many people out there when they ask about places to visit, because I think your operations and the building itself and the service you are giving is something everybody ought to see. The trouble with this Government is we do not tell the public enough about some of the things we are doing.

Dr. Cummings. Yes, sir.

Mr. Denton. And I think this is a great service you are giving the medical profession.

BUDGET OF 1965

Now, the appropriation for 1964 is $4,074,000 and the request for 1965 is $3,633,000, a reduction of $441,000.

Dr. Cummings. That is correct.

Mr. Denton. You say there is an additional $10,000 that is a comparative transfer from the Surgeon General in 1964, which accounts for that difference. You want to increase 13 positions.

Dr. Cummings. That is right.

Mr. Denton. This is brought about by a net reduction of $819,000 in equipment needs in connection with the medlars program and program increases of about $370,000. Is that right?

Dr. Cummings. That is correct.

DECENTRALIZATION

Mr. Denton. The major part of the program increase is $250,000 to establish a decentralized medlars research center. Will you describe what is involved?

Dr. Cummings. Yes, sir. We believe that decentralization is required to deliver the maximum services that medlars was originally designed to perform. We plant to reprogram and convert the Honeywell magnetic tapes of the National Library of Medicine in a form that they may be used by other institutions having other types of computers; for example, IBM or GE equipment. We are asking for these funds to reprogram our material and to convert our tapes at an institution that has a strong computer facility and a strong library. We can then test and demonstrate the feasibility of decentralization of our power.

Mr. Denton. I take it that is largely to improve the service to the local medical community?

Dr. Cummings. That is correct.

Mr. Denton. You want to get it on a regional basis to do that?

Dr. Cummings. That is correct, sir.

Mr. Denton. Will there be any cost sharing at the local level?

Dr. Cummings. At the local level, the university and computer facility will provide free supervisory services, but the National Library will be paying for the actual costs of materials and programers who will be involved in this conversion.

EXPANSION OF BIBLIOGRAPHIC SERVICES

Mr. Denton. Now, the rest of the increase is for expansion of bibliographic services and other public services. Tell us what is the necessity for this.

Dr. Cummings. It is to keep pace with the general mushrooming of scientific literature. Each year more medical articles are published which places an increased requirement on the Library to read them, analyze them, and put them into the medlars system. We intend to increase our input from the current level of about 150,000 articles a year to a level of 170,000 or 180,000 next year. To do this, we need more personnel, the intellectual manpower to feed information into the computer system.

FREE SERVICES

Mr. Denton. What charge do you make when you prepare these special bibliographic reports or render other special services such as photoduplicating scientific literature? What charge do you make for that?

Dr. Cummings. There are no charges for the services of the National Library of Medicine.

Mr. Denton. If a doctor wrote in and wanted you to make a photograph of some medical book or publication, you would send it out to him without charge?

Dr. Cummings. We would not make a photograph of an entire medical book but a physician could ask us for a copy of an article. This would be photographed and sent to him without change through his library. If he asked for a photograph of a portrait in a textbook or in a history of medicine collection, then there would be a small charge for the special photographic procedure necessary to produce a fine print. Generally, however, all of the services of the National Library are free.

Mr. Denton. How much would you take in on these special charges a year?

Dr. Cummings. Very little.

Mr. Denton. Enough to put in the record?

Dr. Cummings. I will ask Mr. Grim.

Mr. Grim. It would be less than $10,000. I would be glad to get the figure and insert it.

Mr. Denton. Put the figure in the record, please.

(The material referred to is as follows:)

Collections by the National Library of Medicine for paid photoduplication services

Fiscal year 1963	$2, 304. 50
Fiscal year 1964 (to Feb. 27, 1964)	886.75

WORLDWIDE DATA ON SCIENTISTS AND RESEARCH INSTITUTIONS

Mr. DENTON. On pages 191 and 192 you say—

> a contract is presently being negotiated with the World Health Organization to study the establishment of a mechanism for compiling worldwide data on biomedical institutions, facilities, and scientists.

How big a project would this be and is WHO paying you or are you paying them, Dr. Cummings?

Dr. CUMMINGS. We have carefully studied the best means of acquiring information needed by U.S. research institutions and scientists. We have chosen to ask the World Health Organization to compile this directory for us at an estimated cost of $20,000. What we are trying to acquire, Mr. Denton, is a comprehensive review of facilities, resources, and scientific manpower in the European scene.

Mr. DENTON. Do you not have the European publications in your library?

Dr. CUMMINGS. We have, we believe, most of the publications, that appear as open published literature; but these publications do not announce who is doing what at a given point in history and what facilities he has to work with. There is no common source of this information overseas, such as we have in this country. In the United States there is a publication called "American Men of Science," where we can look up a physician or scientist; we have his curriculum vitae, where he has studied, what he has worked on, and what he is interested in scientifically. This is the type of information we are trying to develop through WHO.

Mr. DENTON. I would think the Germans and Swiss, the Scandinavian countries would have the last word on that.

Dr. CUMMINGS. I wish that that were the case.

Mr. DENTON. But we are superior to them in that—what shall I call it? This cataloging?

Dr. CUMMINGS. It is a type of cataloging of human and physical resources; yes, sir.

Mr. DENTON. Now just one thing about your former job. You have been here since the first of the year with this agency?

Dr. CUMMINGS. Well, I have been with the Public Health Service many years.

Mr. DENTON. I mean the library?

Dr. CUMMINGS. I have only been in the library position 6 weeks, Mr. Denton.

USE OF FOREIGN CURRENCIES

Mr. DENTON. Dr. Kidd has been with the foreign currency program only 6 weeks. We are a little disappointed there was not more money obligated under that program. I think that is very good use of these foreign currencies. They are in these foreign countries and can only be spent over there. It helps those people and helps us, and then it does not hurt our gold supply. What was the matter that we could not get the program in operation faster?

Dr. CUMMINGS. I think Dr. Kidd portrayed very realistically the basic problem; namely, the lag time and difficulties in getting political release of the funds in many of the foreign countries in which we are trying to work.

I spent almost one-quarter of my time away from home, negotiating with foreign scientists and foreign governments trying to convince them that they should let us use our foreign currencies to support science in their countries.

Mr. DENTON. You did not have that difficulty getting them to take the grain?

Dr. CUMMINGS. I was not involved in the sale of the agricultural surpluses. I think they were quite eager to get the grain.

Mr. DENTON. I was on the Foreign Aid Subcommittee where they talked about the pipeline all the time. You evidently have quite a pipeline here, so that is the answer to it. The pipeline.

Dr. CUMMINGS. Yes, sir; in part that is the answer.

Mr. DENTON. I think that is all the questions I have.

Mr. Lesinski?

CATALOGING OLD RESEARCH

Mr. LESINSKI. Civilizations are built upon prior civilizations, upon the developments of prior years and prior eras. Have you any cataloging of old research developments in medicine?

Dr. CUMMINGS. Yes, sir; in our History of Medicine Division we have a collection of more than 60,000 volumes of ancient and more recent classics of medicine, including medical research. Cataloging of these classics constitutes a very difficult problem for us. We have a cataloging operation but there is a tremendous backlog due to lack of manpower. We are quite frankly behind in our ability to publish catalogs of our ancient literature.

Mr. LESINSKI. Well, the reason I bring up the question, back in the thirties I was reading about things coming out today, in my spare time, and things being developed today; and there should be a means of bringing our scientists up to date, instead of going over the whole thing again. I think we are wasting a lot of money at this time because, instead of taking up what has been done and evolving it further, we are starting from the very bottom. I think we are wasting a lot of time and public funds. Now, what do you need to develop this?

Dr. CUMMINGS. I would say two things are needed, Mr. Lesinski. One is, I think, the point you have already made; namely, the ability to call forth old observations so that a man who is beginning something fresh, will know the background for his own study.

The second thing quite frankly is the need for a program that will permit the busy physician and scientist the time to use the library, to read and digest this material; and we are hopeful that the National Library of Medicine can make its resources more useful to medicine through two different mechanisms: One, through a program where the physician or scientist can put our historical documents to work as a visiting scholar. The other would be to have a mechanism to reproduce our material and send it to him so that he can use it productively in his own environment.

Mr. LESINSKI. What do you need to get to that point?

Dr. CUMMINGS. We will need funds and personnel.

Mr. LESINSKI. How much?

Dr. CUMMINGS. I would be quite happy to provide a more precise estimate for the record, but my first blush reaction would be that this would require something in the neighborhood of $200,000.

Mr. LESINSKI. I wish you would. I would recommend, Mr. Kelly, that it be considered very carefully next time in the budget, because that is something I personally believe in.

Dr. CUMMINGS. I believe in it, also.

(The following was subsequently submitted to the committee:)

PROGRAM OF RESEARCH IN THE HISTORY OF MEDICINE—NATIONAL LIBRARY OF MEDICINE

Historical review and evaluation, not only of the immediate, but also of the ancient, past of medicine, offers new dimensions of understanding, new insights from different points of view, and new comparisons and contrasts of relevance to contemporary problems of medical research and practice.

The need to review and assess critically the progress of medicine is perhaps even greater today than ever before. During the past 30 years medicine has passed through a period of seemingly revolutionary changes involving the structure and fields of research, new basic scientific knowledge, and new potentials for patient care. Historical research, while it reemphasizes the importance of knowledge won by hard labor in the past, leads to a better understanding of what is really new in the medicine of today. It provides the physician with a necessary sense of perspective when he attempts to evaluate the latest claims for new discoveries.

Medicine, a social as well as a scientific discipline, like the law embodies the past in the present. To comprehend the present and plan intelligently for the future, medicine must know whence it came. To assist and promote historical studies, the National Library of Medicine proposes a two-point program for resources and research in the history of medicine. This program is designed to strengthen the library's ability to relate the accumulation of scientific knowledge from the immediate to the distant past to problems of medical research and practice today. It has two elements:

I. Improved access to resources (cataloging the historical documents).
II. Studies and critical reviews by qualified scientists and physicians.

I. IMPROVED ACCESS TO RESOURCES

The NLM as the largest medical library in the Nation has unparalleled resources for the study of ancient as well as modern medicine. The oldest document in its collections was written in 1076. It has nearly 500 books printed before 1500 and approximately 60,000 printed before 1800. It contains the texts of hundreds of works older than that, written originally as long ago as the days of ancient Egypt. It contains an outstanding collection of historical journals, monographs, bibliographies, and indexes needed by the scholar in his research.

Its collections of historical materials, however, have never been adequately cataloged to make them readily accessible to physicians and research investigators. The publication of a complete catalog, or series or catalogs, of the historical collection would provide investigators throughout the country with the basic guides to the contents of the collection, and thus to a very large proportion of the important medical literature of all times. Such published catalogs would enable physicians, scientists, and medical historians to find more quickly and with greater assurance of success the herbals, pharmacopoeias, and other pharmaceutical and medical works that will tell them what drugs have been used in the past and how they were used, from ancient Greece to the present day. Catalogs will lead them to descriptions of epidemics and individual cases of sickness in which they can study the natural history of disease, unmodified by modern therapeutics. Catalogs will lead them to descriptions of mental disorders as they were manifested under different circumstances, and to a better understanding of causative factors. Catalogs will lead them to the works of great men, from whose achievements the youth of the Nation may gain inspiration and courage today.

While the library's indexing and cataloging activities of the past have provided keys to some of this literature, a comprehensive program for the indexing and cataloging and consolidation of this bibliographical information in special files would make available to historical researchers the existing historical literature more quickly and efficiently, with greater assurance that they would find what has been done, and so not repeat needlessly the work of others. In the future, critical bibliographies of current research, published at regular intervals, would not only keep investigators abreast of recent discoveries, but provide tools of permanent value for research in the future.

Program objectives.—The library will undertake a program intensifying its efforts to catalog these important historical materials as soon as funds and personnel positions are made available. The purpose would be to provide the necessary catalogs and bibliographic guides without which these historical materials are inaccessible to scholars and scientists.

Program plan.—To accomplish these objectives, the library would immediately recruit qualified and experienced personnel (1) for the purpose of cataloging its present collections within 5 years, (2) for the purpose of establishing and maintaining an active program for the acquisition and cataloging of manuscript materials, (3) for the purpose of compiling critical bibliographies and special bibliographic information files necessary to the utilization of the collections by scholars and scientists. The program will be administered by the Chief, History of Medicine Division. The cataloging activities would result in the production of specialized catalogs of use to scholars throughout the United States and the world.

Budget

For cataloging of books and manuscripts and compilation of special bibliographic files (9 positions)	$46,000
Other objects	14,000
Total	60,000

II. STUDIES AND CRITICAL REVIEWS BY PHYSICIANS AND SCIENTISTS

The improved access to the library's resources represents the direct contribution of librarians and bibliographers toward the accessibility to knowledge stored in the library's historical collections. It is an essential first step; without it this valuable knowledge is withheld from potential users. To review, evaluate, digest. and interpret these materials in relation to all the myriad purposes and interests of modern medical science will require the time and energy of distinguished physicians and scientists.

This function can be accomplished by senior scientists, and scholars, experienced in the problems of contemporary medicine, with insight into the needs of medical science tomorrow, and with a broad vision of the contributions of past generations to the status of the medical sciences today. Broad perspectives acquired by years of experience, combined with freedom to undertake original inquiry and study, are highly desirable to realize the potential values locked up in the library's collections.

To assist in the evaluation. interpretation, and relation of medical knowledge stored in its collections, therefore, the library proposes a program for making contracts with senior scientists.

Program objectives.—The purpose of this program is to encourage and facilitate independent study and productive scholarship based on the extensive historical resources contained in the NLM. Such productive scholarship would result in publications related to the general purpose of interpreting and evaluating past contributions to the medical arts and sciences in the light of the needs of medicine today.

Program plan.—Administration of the program will be assigned to the chief of research and training of the library's extramural program. Advice in the selection of topics and scientists will be sought from appropriate elements of the National Institutes of Health, and awards will be subject to review and recommendation to the Surgeon General by the NLM board of regents.

During the conduct of the studies. the scientists and/or scholars would have access to the holdings of the NLM either through direct consultation. or through loans to be made to their institution. thus augmenting their study materials. Special bibliographic service would also be made available to them.

The contract period will normally be 1 year, subject to renewal, up to a period of 3 years. Contracts shorter than 1 year will be made where circumstances require, and where the board of regents was satisfied that productive work could be accomplished within the shorter time.

Publication of the results of such historical studies will be accomplished to give maximum effective distribution to the medical community.

Budget: Studies and critical reviews by physicians and scientists	$120,000
Budget recapitulation:	
I. Improved access to resources	60,000
II. Studies and critical reviews by physicians and scientists	120,000
Total	180,000

Personnel recapitulation.—For improvement of access to collections, nine positions.

Mr. LESINSKI. If we do not find means of conserving our funds, some day they will run out. Taking studies of the past and reviewing them and bringing them up to date is much less costly than starting all over again.

Dr. CUMMINGS. This is known in the medical field as a "critical review," where an individual reviews the past history and summarizes it and then disseminates this information for other people to evaluate before they start off on a new research project. We would be very pleased to support this type of work.

Mr. LESINSKI. A simple illustration is where the Russians used an onion or garlic on an infected wound. This is many years ago. Penicillin—a doctor way back in 18 something or other found molded bread was effective, but he hid his knowledge because he was afraid other doctors would ridicule him. You might find something back in Greek or Egyptian history you might use today. I think it is very important.

Dr. CUMMINGS. In the case of penicillin the history is most interesting. The basic scientist Fleming, published his findings that penicillin as a mold inhibited the growth of bacteria in 1929 but this small report never reached the physician's practice until 16 years later when Chain and Flory made the first report of its practical clinical value. Industry developed pure penicillin in large amounts at the end of World War II. To get old information to the physician and scientist will require a program of research in history of medicine.

Mr. DENTON. All right, thank you, Dr. Cummings.

JUSTIFICATION MATERIAL

(Following is the justification material submitted to the committee:)

NATIONAL LIBRARY OF MEDICINE

Amounts available for obligation

	1964	1965
Appropriation	$4,074,000	$3,633,000
Comparative transfer from "Salaries and expenses, Office of the Surgeon General"	10,000	
Total	4,084,000	3,633,000

Obligations by activity

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Library services	263	$3,504,000	276	$2,803,000	+13	−$701,000
Medlars decentralization				250,000		+250,000
Publications support	5	580,000	5	580,000		
Total obligations	268	4,084,000	281	3,633,000	+13	−451,000

Obligations by object

	1964 estimate	1965 estimate	Increase (+) or decrease (−)
Total number of permanent positions	268	281	+13
Full-time equivalent of all other positions	1	1	
Average number of all employees	251	264	+13
Number of employees at end of year:			
Permanent positions	260	273	+13
Other			
PUBLIC HEALTH SERVICE			
11 Personnel compensation:			
Permanent positions	$1,620,000	$1,729,300	+$109,300
Positions other than permanent	6,000	6,000	
Other personnel compensation	24,000	17,700	−6,300
Total personnel compensation	1,650,000	1,753,000	+103,000
12 Personnel benefits	126,100	134,400	+8,300
21 Travel and transportation of persons	25,300	25,300	
22 Transportation of things	2,700	2,700	
23 Rent, communications, and utilities	140,600	115,300	−25,300
24 Printing and reproduction	152,000	168,900	+16,900
25 Other services	599,900	854,900	+255,000
Reimbursement to "National Institutes of Health management fund"	345,000	350,000	+5,000
26 Supplies and materials	82,000	88,000	+6,000
31 Equipment	952,400	132,500	−819,900
Total, Public Health Service	4,076,000	3,625,000	−451,000
ALLOCATION TO LIBRARY OF CONGRESS			
11 Personnel compensation:			
Other personnel compensation	4,000	4,000	
24 Printing and reproduction	4,000	4,000	
Total, Library of Congress	8,000	8,000	
Total obligations by object	4,084,000	3,633,000	−451,000

Summary of changes

1964 enacted appropriation	$4, 074, 000
Comparative transfers	10, 000
Total estimated obligations, 1964	4, 084, 000
1965 estimated obligations	3, 633, 000
Total change	—451, 000
Increases:	
Built-in:	
1. Annualization of phase II and commissioned officer pay increases	37, 700
2. Annualization of medlars program, including 25 new positions authorized for 80 percent of 1964	29, 000
3. Increase in cost of utilities and building maintenance services	5, 000
Subtotal, built-in increases	71, 700
Program increases:	
Expansion of bibliographic services through medlars	85, 200
Establishment of decentralized medlars search center	250, 000
Increases in public services and in preservation of the collection	35, 100
Subtotal, program increases	370, 300
Gross increases	442, 000
Decreases:	
Nonrecurring equipment costs (medlars)	—886, 000
1 less day's pay in 1965	—7, 000
Subtotal, decreases	—893, 000
Total net change requested	—451, 000

EXPLANATION OF CHANGES

Expansion of bibliographic services through medlars.—An increase of $85,200 and nine positions will enable the library to analyze and process, through its computer-based medlars system, an additional 20,000 medical journal articles each year. It also provides for procurement of additional equipment which will increase the speed and efficiency of literature analysis.

Establishment of decentralized medlars search center.—The $250,000 requested will be used to establish and support a university search center to test the effectiveness of decentralized use of the bibliographic information compiled on magnetic tape by medlars at the National Library of Medicine. This will make it possible to utilize NLM's generated tapes on other computer equipment.

Increases in public services and in preservation of the collection.—An increase of four positions and $35,100 is requested to meet additional workload in the interlibrary loan program and to permit increased efforts to preserve deteriorating materials in the collection.

Explanation of transfers

	1964 estimate	Purpose
Comparative transfers from: "Salaries and expenses, Office of the Surgeon General".	$10, 000	Decentralization of accounting point activities.

National Library of Medicine

	Budget estimate to Congress	House allowance	Senate allowance	Appropriation
1956				[1] $1,215,766
1957				[1] 1,314,767
1958	$1,450,000	$1,450,000	$1,450,000	1,450,000
1959	1,526,000	1,526,000	1,526,000	1,526,000
1960	1,566,000	1,566,000	1,566,000	1,566,000
1961	1,738,000	1,738,000	1,738,000	1,738,000
1962	2,066,000	2,066,000	2,066,000	2,066,000
1963	3,335,000	3,335,000	3,335,000	3,335,000
1964	4,074,000	4,074,000	4,074,000	4,074,000
1965	3,633,000			

[1] Estimated cost; first included in Public Health Service budget in 1958.

National Library of Medicine

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	268	$1,780,100	281	$1,891,400	+13	$111,300
Other expenses		2,303,900		1,741,600		−562,300
Total, library services and resources	268	4,084,000	281	3,633,000	+13	−451,000

LIBRARY SERVICES

Last year the Medical Literature Analysis and Retrieval System (medlars) was shown in the budget as a subactivity, distinct from the "library services" activity. The intramural medlars is now an integrated system in the library's operations and has been merged with library services.

Medlars products

The January issue of Index Medicus and all succeeding issues are being produced through the medlars computer-based system. This new system, which will soon become fully operational, provides medical researchers, educators, and practicitioners with a powerful new tool for gaining access to the literature of medicine and related sciences.

In addition to compiling and printing out camera copy of Index Medicus, the library's monthly publications, medlars makes it possible to retrieve bibliographic data in response to as many as 90 specific, complex questions each day, known as "demand" searches.

The library is also negotiating agreements with other Government agencies and national nonprofit health organizations to provide them with machine-produced bibliographies in specialized subject areas. For example, the National Institutes of Health may receive monthly bibliographies containing citations to all of the biomedical literature which was received and processed by the library during the previous month.

Expansion of the system

At present staffing levels it will be possible to process 150,000 medical journal articles as input to the system during 1964. An increase of 9 positions and $55,200 in 1965 will make it possible to index and process an additional 20,000 articles annually, thus contributing to a more comprehensive coverage of the world medical literature. An additional $30,000 is requested to provide equipment such as desk-top microfilm readers to increase the speed and efficiency of professional literature analysis.

DECENTRALIZED MEDLARS SEARCH CENTER

To make the retrieval power of medlars fully responsive to the needs and purposes of medical schools, research institutions and research groups across the country, it will be necessary to make the centrally compiled bibliographic data on magnetic tape available to them at their locations for further searching and utilization. In this way the power of this central resource will be shared with other Federal agencies, medical schools, and research institutions, thereby multiplying the potential to advance medical research and practice. This concept of decentralization is in keeping with the purpose of the National Library of Medicine, and is consistent with its long-standing policy of supplementing and strengthening local medical library resources, rather than supplanting them.

The library proposes to establish a medlars search center at a decentralized, university-based location. This will involve conversion of Medlars tape files and search programs into other computer languages compatible with available equipment. From this pilot study the library will establish basic data on the operational characteristics of decentralized installations and will evaluate their effectiveness in the local medical community. This estimate includes $250,000 to cover costs of the decentralized service center including the cost of converting Medlars tape files and reprograming for use by different types of computers.

Public services and preservation of the collections

Medlars is a significant development in providing bibliographic access to the literature. It is also important to provide physical access to the collections of the National Library of Medicine, which are the most comprehensive in the world.

In providing physical access to the collections, emphasis has been given to programs of interlibrary loan and reader service, for which requests have increased by 20 percent in the past 2 years. The upward trend is continuing. At present NLM is preparing annually more than 3 million pages of photoduplicated copies of scientific literature. It is expected that the improved biblographical access to the literature provided by medlars and its systematic use by teams of researchers will result in greater numbers of requests for photoduplication of the literature indexed.

Inherent in the responsibility for providing physical access to the collections is the requirement for preserving them. Deterioration of the paper on which books and journals are printed poses a serious continuing problem. For this reason, the Library is faced with the task of continual rehabilitation of its collections. An increase of four positions and $35,100 is requested in 1965 to provide personnel services, supplies, binding, postage, and equipment needed to process the increase in requests for interlibrary loans. This will also permit reconditioning or preserving on microfilm the increased number of volumes in the collections which are deteriorating.

Other changes

This request includes $29,000 for annualizing the cost of new positions authorized in 1964, $37,700 for annualizing the cost of pay increases, and $5,000 for increases in the cost of utilities and building maintenance services.

PUBLICATIONS SUPPORT PROGRAM

The publications support program includes both domestic and foreign activities designed to meet the information needs of the biomedical community by increasing the availability and dissemination of significant research information and strengthening the channels of communication normally employed by American scientists.

In its domestic activity, the program contracts for the production of reference tools, such as bibliographies, directories, and abstracts. Included in these are the Bibliography of Medical Translations, a bibliography in field of sarcoidosis, the Directory of Biomedical Research Institutions in the U.S.S.R., and abstracts in the field of gerontology and other biomedical subject fields, from both the American and the foreign literature. The program also provides support for the preparation of critical review articles, for example, in the field of mathematical biology; provides journal support, such as for the Translation Supplement to the Federation Proceedings, which provides for the translation of significant research articles, and their publication and dissemination to over 14,000 American scientists; and contracts for studies of other communication activities.

During the past year, the program has established the PHS Advisory Committee for Scientific Publications, which functions in close cooperation with NIH. The committee acts as an advisory mechanism for the grant and contract support of scientific publications, and is composed of experts in the biomedical and scientific publication fields.

In its foreign activities, the program is the principal PHS resource for improving international communications in the biomedical sciences both under its dollar appropriation and under section 104(k) of Public Law 480, in cooperation with the National Science Foundation. A contract is presently being negotiated with the World Health Organization to study the establishment of a mechanism for compiling worldwide data on biomedical institutions, facilities and scientists.

In 1965, this program will be maintained at the 1964 level of $580,000.

New positions requested, fiscal year 1965

	Grade	Positions	Annual salary
Library Services and Resources:			
Senior indexer	GS-11	1	$8,424
Programer	GS-11	1	8,424
Librarian	GS-9	1	7,030
Indexer	GS-9	2	14,060
Searcher	GS-9	1	7,030
Proofreader	GS-5	1	4,701
Typist	GS-4	2	8,444
Clerk	GS-4	1	4,222
Library assistant	GS-3	2	7,780
Office machine operator	GS-3	1	3,890
Total new positions, National Library of Medicine		13	74,005

RETIRED PAY OF COMMISSIONED OFFICERS

WITNESSES

HARRY L. DORAN, CHIEF FINANCE OFFICER

DR. JAMES M. HUNDLEY, ASSISTANT SURGEON GENERAL FOR OPERATIONS

JAMES F. KELLY, DEPARTMENT BUDGET OFFICER

Object classification

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
13 Benefits for former personnel	2,610	3,171	3,693
25 Other services	1,914	2,271	2,412
Services of other agencies	1,001	1,075	1,167
Total obligations	5,526	6,517	7,272

Program and financing

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
Program by activities:			
1. Retirement payments	2,546	3,102	3,618
2. Survivors' benefits	64	69	75
3. Dependents' medical care	2,915	3,346	3,579
Total program costs, funded—obligations	5,526	6,517	7,272
Financing: New obligational authority (appropriation)	5,526	6,517	7,272

Mr. DENTON. All right, Mr. Doran, you are going to take "Retired pay of commissioned officers"?

Mr. DORAN. Right.

Mr. DENTON. This is all statutory anyway, is it not?

Mr. DORAN. Yes; it is.

GENERAL STATEMENT

Mr. DENTON. You can put your statement in the record.

(The material referred to is as follows:)

Mr. Chairman and members of the committee, this appropriation authorizes such amounts as may be necessary for payments under two separate and distinct programs. The first program covers payments to retired officers of the Public Health Service and to survivors of deceased retired officers. Benefits to retired officers are authorized by section 211 of the Public Health Service Act and 10 U.S.C. 1201, while those to survivors are authorized by the retired serviceman's family protection plan. The amounts of these benefits are fixed by law and payments are not subject to administrative control. The estimated requirement of $3,693,000 for fiscal year 1965 is based on a projection of beneficiaries now being paid with adjustments for anticipated additions and terminations. On February 1, 1964, 464 retired officers and 41 survivor annuitants were on the roll. It is estimated that the number of retired officers will reach 468 by June 30, 1964, and 521 by the end of fiscal year 1965. The projection contemplates that payments will be made to 44 survivor annuitants on June 30, 1964, and to 49 on June 30, 1965.

DEPENDENTS' MEDICAL CARE

The second program financed under this appropriation is the provision of medical care to dependents and retired personnel under the Dependents' Medical Care Act. The financing here involved covers the cost of medical care to be furnished in facilities outside the Public Health Service, both non-Federal and uniformed service facilities, to dependents of eligible personnel of the Coast Guard, the Coast and Geodetic Survey, and the Public Health Service, and to retired personnel of these services in other uniformed service facilities.

The 1965 estimate of $3,579,000 is based on an estimated patient load of 107 in contract hospitals and 91 in Federal hospitals. This reflects an increase of $233,000 resulting from a rise in the cost per day from an average of $59.65 to an average of $61.75 for private hospitals, from $36.75 to $38.25 for dependents and from $25 to $26 for retired personnel in Federal hospitals. Further, the estimated average daily patient load will be increased from 104 to 107 in contract facilities and from 87 to 91 for dependents and retired personnel in Federal hospitals.

The total estimate for 1965, covering both programs, is $7,272,000. My associates and I will try to answer any questions which you may have.

Mr. DENTON. Is there anything you want to add?

Mr. DORAN. There is nothing particularly new about this. It covers two programs.

Mr. DENTON. Yes; two programs: Retired pay and medical care for dependents and members of the Public Health Service?

Mr. DORAN. That is right.

Mr. DENTON. The estimate for 1964 is $6,517,000 and the estimate for 1965 is $7,272,000, an increase of $755,000. This is not subject to administrative control, is it?

Mr. DORAN. It is not, sir.

CHANGE IN APPROPRIATION LANGUAGE

Mr. DENTON. Would you explain this change you propose in the appropriation language?

Mr. DORAN. The title of the act that authorizes this was changed a year or so ago. It should have been changed in the citation last year. This is a more accurate citation of legal authority. The former title was "Uniformed Services Contingency Option Act of 1953," and it should be changed to "Retired Servicemen's Family Protection Plan Act."

Mr. DENTON. You changed the name to the new act, "Retired Serviceman's Family Protection Plan Act."

COST OF MEDICAL CARE IN FEDERAL AND CONTRACT HOSPITALS

Under the dependents' medical care program, you pay the full cost when they go to a Federal hospital, do you not?

Mr. DORAN. This is a rate established by the Bureau of the Budget for care in hospitals of other uniformed services.

Mr. DENTON. What did you say?

Mr. DORAN. It is a rate established by the Bureau of the Budget.

Mr. DENTON. The Government pays full costs?

Mr. DORAN. Yes, sir; that is right.

Mr. DENTON. Why does the average cost of contract or non-Government hospitalization run over 50 percent higher than that in Federal hospitals? Is there some profit or subsidy in this or what is it? Or does the Government operate the hospital cheaper?

Mr. DORAN. I think it is a combination.

Mr. KELLY. There is no question, Mr. Denton, that the cost of operation of a Federal medical plant is considerably cheaper than the cost of purchasing the service. We operate the hospital on an average of about $30 a day, which includes all our costs except capital outlay, including physicians; in order to purchase comparable services, it would cost us about $54.

Mr. DENTON. Without physicians?

Mr. KELLY. No, the $54 includes physicians.

Mr. DENTON. In 1964 the contract cost was $59.65, average per day and for 1965 it is $61.75; and against that, the Federal hospital is $36.75 in 1964 and $38.25 in 1965.

Mr. KELLY. These costs are somewhat higher than the ones I gave you because they include maternity care, which is somewhat more expensive.

Mr. DORAN. The cost has gone up in both Federal hospitals and contract hospitals, and has gone up at about the same rate. If you go back to 1961, the rate in contract hospitals was $51.80, compared with the $61.75 reflected in 1965. In 1961 in Federal hospitals it was $32.25 and goes up to $38.25.

Mr. DENTON. Even in your hospitals how many people can afford to pay $38.25 a day for hospital care, much less $61.75?

Mr. DORAN. This is comparable to the experience in community hospitals. This $61.75, you understand, includes the fees for the doctors and the laboratory services, as well as the actual——

Mr. DENTON. But the people have to pay them just the same.

Dr. HUNDLEY. The answer is, Mr. Denton, if many people did not have hospital insurance, there would not be many people who could pay the bills. It is very expensive.

Mr. DENTON. What are people over 65 years of age going to do when they have difficulty getting hospital insurance?

Mr. KELLY. Elect representatives that will enact the social security plan for health insurance.

Mr. DENTON. Mr. Lesinski?

Mr. LESINSKI. Is not that $38.25 subsidized by the Federal Government?

Mr. DORAN. This is a payment by the Federal Government.

Mr. LESINSKI. But it does not cover all the cost, does it?

Mr. DORAN. It is designed to cover all the cost.

Mr. LESINSKI. It was designed, but how much does it pay?

Mr. KELLY. The $38.25 is more than actual average operating cost. The difference is designed to take into consideration the depreciation of capital outlay and overhead which is not normally accounted for as direct cost.

Mr. LESINSKI. But that does not include the cost of the building, does it?

Mr. KELLY. For example, in Public Health Service hospitals there is an actual operating cost of approximately $30 a day. This $30 a day does not differentiate between the patients. For example, it does not differentiate between an acutely ill or surgical case and a convalescent case. But the average cost is $30 a day. This also does not include cost of depreciation of plant and equipment. Therefore, when you use a cost of around $38 a day, it is felt that this does take into consideration the cost of depreciation of plant equipment and other overhead costs not normally treated as part of direct costs.

Mr. LESINSKI. It seems the costs are extreme and should be evaluated as to why, and I think it would be fair for the record, Mr. Chairman, with your approval. Comparative costs and analyses should be given between private and Federal hospitals as to why the costs are so different.

Mr. DORAN. Well, I think probably the largest reason for the difference is that the charge for contract hospitalization includes doctors' fees and laboratory fees, whereas in the Federal hospital the doctor works for a salary, and the laboratory services and materials are produced at cost.

Mr. LESINSKI. Well, that is understandable; that is easy to see, then.

That is all. Thank you.

Mr. DENTON. The committee will adjourn and will reconvene at 10 o'clock on Monday.

JUSTIFICATION MATERIAL

(The following is the justification material submitted to the committee:)

RETIRED PAY OF COMMISSIONED OFFICERS

Amounts available for obligation

	1964	1965
Appropriation (indefinite)	$6,517,000	$7,272,000

Obligations by activity

	1964 estimate	1965 estimate	Increase (+) or decrease (−)
Retirement payments	$3,102,000	$3,618,000	+$516,000
Survivors' benefits	69,000	75,000	+6,000
Dependents' medical care	3,346,000	3,579,000	+233,000
Total obligations	6,517,000	7,272,000	+755,000

Obligations by object

	1964 estimate	1965 estimate	Increase (+) or decrease (−)
13 Benefits for former personnel	$3,171,000	$3,693,000	+$522,000
25 Other services	3,346,000	3,579,000	+233,000
Total obligations by object	6,517,000	7,272,000	+755,000

Summary of changes

1964 enacted appropriation (indefinite)	$6,517,000
1965 estimated obligations	7,272,000
Total change	+755,000
Increases:	
Mandatory:	
1. Projection of estimated retirements during 1964 to full year	144,000
2. Estimated additional retirements during 1965	299,000
3. Annualization of military pay increase for retired officers	73,000
4. Estimated increase in survivors' benefits	6,000
5. Increased cost of dependents' medical care	233,000
Total, mandatory items	755,000
Total, change requested	755,000

EXPLANATION OF CHANGES

An estimated increase of $443,000 is to provide for the full year of 1965 the payments to officers placed on the retired roll during 1964 and for the net increase of 53 officers estimated to be retired during 1965. An increase of $73,000 is estimated for annualization of retirement payments due to the Uniformed Services Pay Act of 1963, Public Law 88–132.

An increase of $233,000 is requested to provide for increased patient loads and higher rates in both Federal and non-Federal hospitals, offset by a savings of 1 day in 1965.

Retired pay of commissioned officers

	Budget estimate to Congress	House allowance	Senate allowance	Appropriation
1955	$1,141,000	$1,141,000	$1,141,000	$1,141,000
1956	1,496,000	[1] 1,225,000	1,496,000	1,355,000
1957	1,450,000	1,450,000	1,450,000	1,450,000
1958	1,570,000	0	(2)	(2)
1959	(2)	(2)	(2)	(2)
1960	(2)	(2)	(2)	(2)
1961	(2)	(2)	(2)	(2)
1962	(2)	(2)	(2)	(2)
1963	(2)	(2)	(2)	(2)
1964	(2)	(2)	(2)	(2)
1965	(2)			

[1] Supplementals of $141,000 and $130,000 not considered by the House.
[2] Indefinite.

Retirement payments

1964 estimate	$3,102,000
1965 estimate	3,618,000
Increase or decrease	+516,000

This estimate provides for mandatory payments to officers who have been retired for age, disability, or specified periods of service in accordance with provisions of law. Fourteen officers will be eligible for age retirement during 1965, and provision is made for the retirement of 19 officers for disability and 30 officers for years of service.

On June 30, 1963, there were 416 officers on the retired list. During 1964, 8 officers have been retired for disability, 32 officers for service, and 9 for age. Four additional officers will become eligible for age retirement. It is estimated that a total of 62 officers will be retired during the fiscal year and that 10 will be dropped from the roll, resulting in an estimated 468 officers on the retired list as of June 30, 1964.

It is estimated that 30 officers will be retired for service and 19 for disability during 1965. Since 14 officers will reach the mandatory retirement age of 64 years, provision has been made to retire 63 officers during 1965. It is estimated that 10 officers will be dropped from the roll during the year, resulting in an estimated total of 521 officers on the retired list as of June 30, 1965.

Table of increases and decreases of retirements

	Fiscal year					
	1960	1961	1962	1963	Estimate, 1964	Estimate, 1965
Retired for:						
Disability	24	24	16	11	13	19
Age	5	4	6	10	13	14
Years of service	7	30	40	25	36	30
Total retirements	36	58	62	46	62	63
Dropped:						
Death	17	10	20	16	10	10
Other	0	0	0	2	0	0
Total dropped	17	10	20	18	10	10
Net increase or decrease in officers on retired roll, end of fiscal year	19	48	42	28	52	53
Officers on retired roll, end of fiscal year	298	346	388	416	468	521

Survivors' benefits

1964 estimate	$69,000
1965 estimate	75,000
Increase or decrease	+6,000

This estimate provides for the payment of annuities to the survivors of deceased retired officers who, while on the retired list, elected to receive reduced retirement payments under the Uniformed Services Contingency Option Act of 1953.

The survivors of 40 officers are now receiving benefits and it is estimated that there will be survivors of 44 officers on the roll June 30, 1964, and of 49 officers June 30, 1965.

Dependents' medical care

1964 estimate	$3,346,000
1965 estimate	3,579,000
Increase or decrease	+233,000

The Dependents' Medical Care Act (10 U.S.C. 55) provided for an improved and uniform program of medical care for active duty and retired members of the uniformed services and their dependents, effective December 7, 1956. This activity covers the cost of medical care to be furnished in facilities outside the Public Health Service, both non-Federal and uniformed service facilities, to dependents of eligible personnel of the Coast Guard, the Coast and Geodetic Survey, and the Public Health Service; and to retired personnel of these services in other uniformed service facilities.

A comparison of the estimated workloads and costs is shown in the following table:

	1964 estimate	1965 estimate
I. Contract hospitalization of dependents:		
1. Average patient load of hospitalization	104	107
2. Total annual patient-days	38,064	39,055
3. Average cost per day	$59.65	$61.75
4. Total contract hospitalization certified by executive agent	$2,270,518	$2,411,646
Rounded	$2,271,000	$2,412,000
II. Federal hospitalization dependents:		
1. Average patient load of hospitalization	65	68
2. Total annual patient-days	23,790	24,820
3. Approved reimbursable rate	$36.75	$38.25
4. Total, dependents	$874,282	$949,365
Rounded	$874,000	$949,000
Retired personnel:		
5. Average patient load of hospitalization	22	23
6. Total annual patient-days	8,052	8,395
7. Approved reimbursable rate	$25	$26
8. Total, retired personnel	$201,300	$218,270
Rounded	$201,000	$218,000
9. Total, Federal hospitalization	$1,075,000	$1,167,000
III. Total, all hospitalization	$3,346,000	$3,579,000

The expenses incurred for this activity are mandatory obligations of the Public Health Service. They arise because a dependent or a retired person utilizes an approved hospital facility. The amount of expense incurred varies, depending upon the hospital system which the Public Health Service beneficiary enters: (1) If care is rendered by a Public Health Service facility there is no charge under the Dependents' Medical Care Act (these costs are chargeable to "Hospitals and medical care") ; (2) if care is received from a facility of another uniformed service, the Public Health Service is billed directly by that organization; and (3) if medical care is given by a private facility, a contractor such as Blue Cross pays the hospital and bills the executive agent in the Department of Defense, who in turn bills the Public Health Service for the services rendered. Experience has shown that unit costs for care rendered by private facilities are considerably higher than those furnished by uniformed services facilities. Therefore, since unit costs are variable to an extensive degree and the workload is not created through program operations of the Public Health Service, the costs of the dependents' medical care program are neither predictable nor subject to administrative controls.

The increase in fund requirements recognizes an increase in daily rates for contract hospitalization based on information developed by the executive agent, and for Federal hospitalization based on approved reimbursable rates.

MONDAY, MARCH 2, 1964.

BUILDINGS AND FACILITIES

WITNESSES

DONALD F. SIMPSON, EXECUTIVE OFFICER
VERNON M. HERRING, CHIEF, CONSTRUCTION AND REAL ESTATE BRANCH
DR. ROBERT J. ANDERSON, CHIEF, B.S.S.
DR. AARON W. CHRISTENSEN, DEPUTY CHIEF, B.S.S.
DR. JAMES A. SHANNON, DIRECTOR, NATIONAL INSTITUTES OF HEALTH
DR. DAVID E. PRICE, DEPUTY SURGEON GENERAL
HARRY L. DORAN, CHIEF FINANCE OFFICER
JAMES M. QUIGLEY, ASSISTANT SECRETARY
JAMES F. KELLY, DEPARTMENT BUDGET OFFICER

Object classification

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
PUBLIC HEALTH SERVICE			
25 Other services	205	2,430	2,070
26 Supplies and materials	24		
31 Equipment	50	450	660
32 Lands and structures		2,690	4,500
Total, Public Health Service	279	5,570	7,230
ALLOCATION TO GENERAL SERVICES ADMINISTRATION			
24 Printing and reproduction	11	45	50
25 Other services	2,983	2,340	2,000
31 Equipment	10		
32 Lands and structures	3,467	25,675	33,686
Total, General Services Administration	6,471	28,060	35,736
Total obligations	6,750	33,630	42,966

Program and financing

[In thousands of dollars]

	Costs to this appropriation					Analysis of 1965 financing			
	Total estimate	To June 30, 1962	1963 actual	1964 estimate	1965 estimate	Deduct selected resources and unobligated balance, start of year	Add selected resources and unobligated balance, end of year	Appropriation required, for 1965	Appropriation required to complete
Program by activities:									
1. Environmental health facilities: Plans and specifications	2,285				931	785	1,354	1,500	
2. Water quality standards research laboratories	4,310			254	2,466	3,746	1,590	310	
3. Arctic health research center	4,500			400	1,700	100	2,190	3,790	210
4. General office building extension, NIH	6,200			202	1,192	498	4,806	5,500	
5. Gerontology research facility, NIH	7,500				2,470		5,030	7,500	
6. NIH animal center (farm)	13,711	243	95	2,435	2,187	2,497	627	317	8,074
7. Repairs and improvements:									
(*a*) National Institutes of Health	3,616			1,966	1,650			1,650	
(*b*) Community health	631			386	245			245	
(*c*) Environmental health	203			29	174			174	
(*d*) Bureau of Medical Services	471				471			471	
(*e*) National Library of Medicine	55				55			55	
8. Water pollution control laboratories	19,090	1	46	2,615	9,915	11,428	1,513		5,000

9. Extension to clinical center cafeteria, NIH	695			9	667	686	19		
10. Library relocation, NIH	900			53	431	847	416		
11. Warehouse extension, building 13, NIH	780			42	376	738	362		
12. Construction, mental health-neurology-cancer cafeteria, NIH	800			51	35	749	714		
13. Construction of biologics standards laboratory annex, NIH	4,656		36	1,044	2,523	3,576	1,053		
14. Communicable Disease Center	15,801	199	379	2,449	8,000	12,774	4,774		
15. Construction of cancer research facility, NIH	10,280				3,790	10,280	6,490		
16. Construction of service building, NIH (building 12)	1,800			949	836	851	15		
17. Construction of master utilities extension, NIH	5,495		70	582	185	4,843	4,658		
18. Construction of laboratory facilities, Puerto Rico (NIH)	850			35	240	815	575		
19. Construction of research facilities, Lexington, Ky., (NIH)	400	22	1	171	176	206	30		
20. Construction of animal quarters, NIH	2,606	2,024	492	54	34	36	2		
21. Construction of library facilities	6,850	6,112	419	319					
22. Construction of dental research building, NIH	3,631	3,556	1	61	13	13			
23. Construction of surgical facilities, NIH	2,183	1,855	279	45	4	4			
24. General office building, NIH	9,825	9,362	41	306	105	116	11		
Total program costs, funded	130,124	23,374	1,859	14,507	40,871	55,588	36,229	21,512	13,284
Change in selected resources [1]			4,891	19,123	2,095				
Total obligations			6,750	33,630	42,966				
Financing:									
Unobligated balance brought forward			−21,086	−47,536	−30,217				
Unobligated balance carried forward			47,536	30,217	8,763				
New Obligational authority (appropriation)			33,200	16,311	21,512				

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[1] Selected resources as of June 30 are as follows: Unpaid undelivered orders, 1962, $1,757,000 (1963 adjustments, $41,000); 1963, $6,689,000 (1964 adjustments, −$400,000); 1964, $25,412,000; 1965, $27,507,000.

Mr. Fogarty. The committee will come to order.

Mr. Simpson, are you going to justify this appropriation?

General Statement

Mr. Simpson. If you will excuse a very bad laryngitis; yes, sir. I have a short statement that is not going to take me long to read. I have another longer statement, sir, that has been submitted to the committee.

Mr. Fogarty. All right, you may proceed.

Mr. Simpson. Mr. Chairman and members of the committee, the appropriation "Buildings and facilities" finances a number of the major construction projects of the Public Health Service. The estimate of $21,512,000 for 1965 is to provide funds for the following seven items:

Preparation of plans and specifications for environmental health facilities, $1,500,000.

Portable equipment for the water quality standard research laboratory at Kingston, R.I., and Duluth, Minn., $310,000.

Construction of the new Arctic Health Research Center, $3,790,000.

Construction of the General Office Building extension at the National Institutes of Health, $5,500,000.

Construction of the Gerontology Research Facility at Baltimore, $7,500,000.

Restoration of planning funds for phases II and III of the animal center (farm) at the National Institutes of Health, $317,000.

Repairs and improvements to various facilities of the Public Health Service, including those of the Bureau of Medical Services which were formerly funded in the accounts of the General Services Administration, $2,595,000.

Each of the various projects which make up the 1965 estimate are vital to the support of important Public Health Service programs.

Mr. Chairman, my colleagues and I shall be glad to answer any questions that you may have.

LAG IN CONSTRUCTION SCHEDULES

Mr. Fogarty. The appropriation for 1964 is $16,311,000 and the request for 1965 is $21,512,000, an increase of $5,201,000.

I notice you are still running way behind schedule on your construction. What is the reason for this? Almost every construction project is behind schedule.

Mr. Simpson. Yes, sir. We are considerably behind schedule on almost every one of our construction items.

Mr. Fogarty. Just take a couple of minutes and tell me the steps you have to go through.

Mr. Simpson. There are quite a number of steps that we have to go through, and reviews by higher authorities in the Government, which account in part for this delay.

First of all, we have to develop a program of requirements, as it is called, for each construction project. This sets forth in considerable detail the functions to be carried out in the facility to be constructed. A rather detailed explanation of just exactly what kinds of space and facilities are needed within the facility, and a justification for these, in terms of the number of employees that are expected to be housed in it, the number of animals that may be involved, and the number of laboratory modules, etc., necessary to carry out the work.

This is developed first by the program people down in the operating division that has need for the facility. It is forwarded to the Surgeon General's Office, the Department, and the Bureau of the Budget, where it is reviewed and analyzed in considerable detail. When we have Budget Bureau approval of the program of requirements, we come before you with the request for planning money for this particular project.

Mr. Fogarty. Up to this point which place takes the most time?

Mr. Simpson. I would have to do really a detailed study of it.

Mr. Fogarty. The Surgeon General's Office or the Department or the Bureau of the Budget?

Mr. Simpson. I would have to do a detail analysis, sir, to answer that with assurance.

Mr. Fogarty. We have had many years of experience now.

Mr. Simpson. Yes, sir.

Mr. Fogarty. Where do you experience the most difficulty?

Let me put it that way.

Mr. Simpson. I would say that there is probably about an equal amount of time between the initial development of the program requirements at the operating division level, and the Department, and the Bureau of the Budget.

There is probably more in the Bureau of the Budget than within the Public Health Service.

Mr. Fogarty. That is generally the case, I find—the Bureau of the Budget.

Mr. Simpson. I think this is true.

Mr. Fogarty. They want to try to tell Congress what money should be spent on and how to spend it. I won't ask you to comment on that. This is just my own comment about the Bureau of the Budget. Go ahead.

Mr. Simpson. Well, sir, after planning funds are appropriated by the Congress, we then get an apportionment of those funds by the Bureau of the Budget. Again, there may be some negotiation and delay with respect to that, in which estimates are made as to how rapidly we can proceed. The next step is to get the design and planning services. Frequently, this is contracted by the General Services Administration, and we begin work with the architects and the engineers in the development of what are called diagrammatic sketches of a particular facility or building we have under consideration.

These are reviewed and then tentative drawings are developed once the diagrammatic sketch has been approved, both by GSA and by ourselves. Then finally, the last stage in the process, the actual development of the plans and specifications—the final working drawings which are to be used by the contractor in the construction of the facility itself.

These all take a good deal of time to develop; months generally go by before we have complete final working drawings which become the basis for the invitation to bid for a construction contract on the basis of which the construction work is actually done.

Then there is the letting of contract award for construction and the actual building of the building.

Mr. Fogarty. That is done by GSA?

Mr. Simpson. That is done by the GSA; yes, sir.

Mr. Fogarty. Now, are you experiencing any lengthy delays in getting action by the GSA?

Mr. Simpson. No, sir; I don't think that we have had too much delay in getting action from GSA. More of our delays occur in details of the design, the specifications that go into the construction, and in the review of the work that had been developed by the architectural-engineering firm, holding the design contract.

There is much negotiation that goes back and forth between ourselves, the General Services Administration and the architectural-engineering contractor on this, in order to get all three parties in agreement on the details of construction to go into the facility, and this I think, is where most of the delay has actually occurred.

Mr. Fogarty. You should not have the problem of the architectural-engineering people. They have the contract.

Mr. Simpson. The problem is not really so much with the architectural-engineering people as it is frequently the problem of fitting money to detailed construction needs. When we have been speaking about a certain amount for constructing the facility, frequently, when you begin working with the architects and the engineers, the cost estimates that they come up with are considerably more than was originally anticipated. Then you begin all kinds of negotiations and jockeying with them in order to see what can be done to get down within your estimated construction cost figures. This is where much time is spent.

WATER QUALITY STANDARDS LABORATORY

Mr. Fogarty. You mentioned the water quality standards research laboratory at Kingston.

Do you have the steps before you on what has happened there? When the initial work was started?

Mr. Simpson. Yes, sir.

Mr. Fogarty. When the appropriation was made—where are we now? Give me the dates.

Mr. Simpson. In 1963, the Congress appropriated $4 million for planning and constructing two water quality standards research laboratories—one for fresh water and one for salt water investigations.

One of the proposed laboratories was to be located at Kingston, R.I., and the total construction cost will be approximately $1,700,000. The building will contain approximately 35,000 square feet.

Then in June of 1963, the architectural and engineering contract was awarded, and then in December of 1964, it is estimated that the construction bid advertisements will be solicited, about 9 months from now.

Mr. Fogarty. So it is under design at the present time. And the architect and engineers were selected in June of 1963?

Mr. Simpson. That is right.

Mr. Fogarty. And the plans will not be ready until December?

Mr. Simpson. It is estimated in December 1964.

Mr. Fogarty. That seems to me to be an awful long period for a comparatively small building.

Mr. **Kelly**. That includes the preparation of detailed plans and specifications and the preparation of the bid proposal.

Mr. **Fogarty**. It is still a long time, isn't it?

Mr. **Kelly**. Yes, it is.

Mr. **Fogarty**. What has been holding up on this?

Mr. **Simpson**. I do not know that there has been any particular holdup, do you, Mr. Kelly?

Mr. **Kelly**. The only one that I am aware of at the moment—I do not know enough detail to talk to you—is that at the moment, we have an unresolved item that relates to a sewage disposal problem for the project which needs to be resolved before the architects can complete the total design of the project. As I say, I do not know enough detail yet to know what that problem is.

Mr. **Fogarty**. That sewage proposal would come in a different appropriation, would it not?

Mr. **Kelly**. I think it would have to be fitted into this project. This project would have to pay its share of the sewage disposal. I do not think it was originally estimated: and they are now reconsidering. I suppose—and I may be wrong—I suppose that the original plan called for dumping of raw sewage and now, it is being redesigned in order that it will not dump raw sewage.

Dr. **Anderson**. We never proceeded with designs to dump raw sewage.

Mr. **Fogarty**. I hope not.

Dr. **Anderson**. Rather, we first proposed to take care of the immediate problem for the shellfish laboratory by a subsurface septic tank and field arrangement. As the university has enlarged its plans for the area, including the development of a reactor near the present marine laboratory, and when the water quality laboratory came along, the university officials, and the Fish and Wildlife Service, who are establishing a marine facility there—and we have been talking about the development of a sewage treatment plant which would provide for treatment and disposal of the effluent in such a way that the waters of Narragansett Bay would not be contaminated. As of now, those discussions and negotiations are still underway.

Some of our folks went up to the University of Rhode Island last week, and had discussions up there with them. Those planning discussions are continuing, sir.

Mr. **Fogarty**. Some of them were down here.

Dr. **Anderson**. Some were down here, too.

Mr. **Fogarty**. Do you think it is going to be a big problem? Do you think it is going to postpone this project?

Dr. **Anderson**. No, sir. We think that the treatment plant can be arranged, designed, and built in such time that it will be ready for the facilities when they are completed, with the exception of the shellfish laboratory for which we will have to provide a temporary solution.

UNOBLIGATED FUNDS

Mr. **Fogarty**. All right. A year ago, you estimated the 1963 obligations would total $20,472,000 and this year the budget shows that only $6,750,000 actually was obligated.

That is quite a slowup. What is the reason for that?

Mr. KELLY. I think that this is merely the evidence of what Mr. Simpson has been testifying to; that I think on the one hand, we have been overly optimistic on how rapidly we can proceed and then, we have given you in our testimony dates and estimated obligations which have been based on this optimism.

Secondly, I believe our performance has been slower than it could have been. The Secretary has been concerned about this.

Mr. Simpson is working with me now to try and evaluate individual projects that have gone down the road to determine just where the delays are, and what can be done to overcome them in the future. We are convinced that we can do better than we have done in the past.

OBLIGATIONS FOR 1965

Mr. FOGARTY. Now, your justifications show that you will obligate $33,629,885 this year. You do not really believe that, do you?

Mr. KELLY. It was our best estimate when we put this budget together and we are going to bend every effort toward that accomplishment.

Mr. FOGARTY. During the first 6 months, you obligated $10,339,750. You would have to more than double your progress during the last 6 months to come up to your estimate for the year.

CAUSES OF DELAY

I wish you would tell us, are there any other undue delays that you want to tell the committee about? Are any other Government agencies involved, or is it that you do not have sufficient help to get into this problem, or what?

Mr. SIMPSON. There are problems that we cannot always anticipate in planning facilities. Sometimes they relate to site acquisitions, when we get into difficulties with local authorities, with respect to highway construction plans, or sewage system construction plans, of which we have not been aware at the time of the first presentation before this committee, and then we began a long series of negotiations with the local government authorities, with respect to how we can work out what have been conflicting plans, on the utilization of land.

The facility in Duluth is a case in point, I believe. Ann Arbor is another case, I believe, where we have had some difficulty with respect to the site acquisition. This is a difficult thing that you cannot always anticipate.

Mr. FOGARTY. We will bring Ann Arbor up later.

ENVIRONMENTAL HEALTH CENTER

The first item is $1,500,000 for environmental health facilities. Is this all planning or is part of it for land?

Mr. SIMPSON. This is all for planning. There is nothing in this item for land acquisition.

Mr. FOGARTY. Are you negotiating on the location? Is this up in the air?

Mr. SIMPSON. This is up in the air at the present time. There are negotiations going on. We had hoped to have a decision by this time. We expect it shortly.

Mr. FOGARTY. What is the estimate of the total cost of these facilities?

Mr. SIMPSON. For the first phase of the environmental health facilities?

Dr. ANDERSON. It would be about $30 million, sir, relating to the planning item that is before you.

Mr. FOGARTY. Does that answer my question?

What is the estimate of the total cost of the facilities?

Dr. ANDERSON. That would be built?

Mr. FOGARTY. About $30 million?

Dr. ANDERSON. Yes, sir.

Mr. FOGARTY. All facilities?

Mr. SIMPSON. Yes, sir; relating to these planning funds.

Mr. FOGARTY. That is all environmental facilities?

Dr. ANDERSON. With regard to the facilities that are requested under this item. There are other items. For example, the water quality laboratory. There are regional water laboratories, which are outside of this, and there are other environmental facilities, too.

Mr. FOGARTY. In how many separate locations are you environmental health people now located?

Dr. ANDERSON. In the Washington area, we have six locations currently, including our downtown facilities; and in Cincinnati, including our special stations, we have a total of eight locations. Half of the people—1,400 to be exact—in Washington and Cincinnati, are housed in temporary buildings that we have erected on Government grounds, or are housed in leased space that is obtained in various sites around town.

Mr. FOGARTY. All right. Will you supply for the record, a complete breakdown of the facilities you occupy here, and also those in Cincinnati; the rent paid, and the convenience of location to the Taft Center.

Dr. ANDERSON. Yes, sir.

(The breakdown is as follows:)

Facilities occupied by the environmental health programs in Washington and Cincinnati and rental cost for each

	Annual rent cost
Washington area:	
Health, Education, and Welfare Building, south	None
Temporary R	None
Woodmont Building, Bethesda	$88,779
1820 Chapman Ave., Rockville	20,632
1901 Chapman Ave., Rockville	164,700
300 North Stonestreet, Rockville	20,025
Total	294,136
Cincinnati:	
Sanitary engineering center, permanent building	None
Sanitary engineering center, temporary building	None
1014 Broadway	211,830
Breen Building	56,938
DAV Building	172,353
Toms River Building	210,100
Temporary building at Gest St	None
Temporary building at Newton	None
Total	651,221
Grand total	945,357

CONVENIENCE OF LOCATION OF CINCINNATI, OHIO, FACILITIES TO ROBERT A. TAFT SANITARY ENGINEERING CENTER

Environmental health programs in Cincinnati, Ohio, are located in the Robert A. Taft Sanitary Engineering Center and six other widely separated locations in other parts of the city. The distance between the center and the other locations ranges from 4 to 10 miles. It therefore requires from 10 to 30 minutes to travel between the center and outlying locations.

Such a separation of facilities causes inconveniences in providing administrative services and in program operations. Separate telephone switchboards are necessary; mail and messenger services are slowed down and require vehicles for travel between locations; passenger shuttle services must be provided; separate reproduction facilities are necessary; and separate stockrooms must be maintained for smaller items of stores and supplies.

Program operations are also less convenient. The library is maintained centrally, so that personnel must travel to the center to consult reference works and perform library research. The computer installation is used by all programs and it is at the center. This involves travel for planning and following up on computer projects. Necessary meetings and conferences usually involve personnel from several locations who must travel to come together.

WATER QUALITY STANDARDS LABORATORIES

Mr. Fogarty. Next, is $310,000 for equipment for the two water quality standards laboratories. What is the status of each now?

Mr. Simpson. This $310,000 is for the portable equipment in the two laboratories.

Mr. Fogarty. When will these laboratories be completed?

Mr. Simpson. At the Kingston, R.I. one the construction is estimated to begin at the end of this year, to be completed about April of 1966, and on the Duluth laboratory the construction is estimated to start in March of 1965, about a year from now, and be completed in July of 1966.

Mr. Fogarty. Why do you need the money now, then? Why do you need this $310,000 when neither one of them is going to be ready in the next fiscal year?

Mr. KELLY. It is desirable, Mr. Chairman, to have a leadtime in the writing of the specifications and the procurement of portable equipment, in order that it can be delivered to the project at approximately the time that the construction is completed, so that the facility can be used. You have to allow for a period of 6 to 9 months as a minimum for this leadtime, and this would mean that you have to contract for it in the fiscal year 1965.

ARCTIC HEALTH RESEARCH CENTER

Mr. FOGARTY. Well, last year we appropriated funds for the Arctic Health Research Center, and you are now asking $3,790,000 for construction.

What is the status of planning?

Will the contract be let in the next fiscal year?

Dr. ANDERSON. The present schedule is as follows: The contract with architect will be awarded in May 1964; final drawings and specifications will be completed in January 1965; bids will be solicited in February 1965; the construction contract will be awarded in March 1965; and the anticipated completion of the facilities is December of 1967.

Mr. SIMPSON. The present situation is that the program of requirements on this particular project, had to be revised. It was sent back to us by the Bureau of the Budget for revision and is still under review at the present time. It will be resubmitted to the Bureau of the Budget for their approval.

Mr. KELLY. We have also requested the authority from the General Services Administrator, to undertake this project through the Army Engineers, in the same manner we did the water pollution laboratory, because of the staffing and capability they have in the Alaska area for this kind of undertaking.

Mr. FOGARTY. Where will this be physically located with regard to the Alaska Regional Water Pollution Control Laboratory?

Dr. ANDERSON. They are both on the campus of the University of Alaska at Fairbanks, and they are immediately adjacent to each other. They are contiguous buildings.

Mr. FOGARTY. Is the new center being planned just to provide space for the current Federal staff?

Dr. ANDERSON. It is being planned for the staff that currently is located in Anchorage and will house the staff that is there and will provide for a small increase in program.

NIH GENERAL OFFICE BUILDING

Mr. FOGARTY. Next is the extension of the NIH General Office Building, $5,500,000, for which $700,000 was appropriated for planning in 1962. What is the status of that?

Mr. SIMPSON. Well, on this sir, the program of requirements has been completed and approved. A contract was signed with the architects and engineers by the GSA in August of 1963. We are expecting the diagrammatic drawings very shortly—this, month, as a matter of fact.

Mr. FOGARTY. How many employees do you have in rented space now?

Dr. SHANNON. Two thousand seven hundred, sir.

Mr. FOGARTY. How many employees would this addition house?

Mr. SEGGEL. One thousand one hundred.

Mr. FOGARTY. And how many do you have?

Mr. SEGGEL. Two thousand seven hundred.

Mr. FOGARTY. You still would have 1,600 in rented space?

Mr. SEGGEL. That is right.

Mr. FOGARTY. I thought this was to take care of all the people that were in that space.

Mr. SEGGEL. At the time we planned this, we hoped it would take care of our major problem.

Mr. FOGARTY. When are you going to build another building?

Dr. SHANNON. Well, Mr. Fogarty, at the time we requested these planning funds, we pointed out that the facility would be fully occupied. At the same time, we expressed serious doubt that it would be enough unless it were possible to decentralize some of our operations. This has not proved feasible up to the present time. I would say that this represents an example of the way this has characteristically operated in the last 10 years. Our office space has been always about 5 years behind the need.

Mr. FOGARTY. According to this budget, we have before us now, it is starting to go the other way. It is going downhill.

GERONTOLOGY RESEARCH FACILITY

Now, the largest item in the 1965 request is $7,500,000 for the Gerontology Research Facility. We talked about this earlier, but tell us again for the record, what is the status of planning?

Mr. SIMPSON. Well again, sir, the program of requirements has been completed and approved late in 1962; the architects and the engineers were contracted in May of 1963. The tentative drawings are expected in April—next month—and then the working drawings in January of 1965 with construction estimated to be completed in July of 1967.

Mr. FOGARTY. Is the land being donated or purchased?

Mr. SIMPSON. The land is being donated, sir.

Mr. FOGARTY. Tell us a little bit about the activities planned to be carried out in this facility.

Dr. SHANNON. Mr. Fogarty, we have had in Baltimore the only program to resolve some of the problems that are incident to the aging. This activity was started in the early forties, under Dr. Shock, as a small laboratory facility to add on to the already on-going Baltimore City Hospital. As a matter of planned policy, this activity was permitted to grow, particularly during the fifties and the midfifties. A substantial part of one of the wings of the Baltimore City Hospital was given to us, to make more adequate space available.

This space has been used to the present time, but there was a change in the staffing of the Baltimore City Hospital, with a much more aggressive attitude on the part of the city of Baltimore to acquire full-time professional personnel for the hospital, these people being derived primarily from the faculties of Hopkins, and the University of Maryland and the medical schools in Baltimore. We supported both of these activities by grants with particular emphasis on problems of the aging, and it became perfectly obvious that we had here the nucleus of a really broad frontal attack with a single installation on the many related problems of aging, where a partnership might be developed among the NIH, Hopkins Medical School, and the medical school at the University of Maryland. In fact, it might also include certain elements of the city of Baltimore and those elements of the State government that were concerned with the problem. It was with the idea of satisfying this general need that it was proposed that a substantial facility be built on the grounds of the Baltimore City Hospital, to tie in with the facilities that were there, which would provide space not only for our own scientists, but also for the acceptance of, roughly, approximately an equal number of guest investigators from the universities, and would tie the activities of the State of Maryland into the activity.

Mr. FOGARTY. This is going to be of considerable benefit to the local people of Baltimore; isn't it?

What contribution are they making?

Dr. SHANNON. The contribution is twofold. One, the land; and two, is the thought we will derive from it a well-run general hospital for the transfer of patients in and out. They will not support any activity of the installation itself.

NIH ANIMAL FARM

Mr. FOGARTY. You are requesting $317,000 for the NIH animal farm. It isn't clear to me why you need these funds. Is it because you underestimated construction costs of the so-called phase I?

Mr. SEGGEL. Yes, sir. That is correct.

Mr. FOGARTY. Now, will you explain briefly the three phases of this project and tell us how much more it is going to cost to finish all three?

Mr. SEGGEL. The first phase consists of an animal building, a kennel building, utilities, powerplant, and two residences.

Then phase 1–A is comprised of a caged animal (primate) wing, an animal behavior laboratory, and a general laboratory for the NIMH.

Phases 2 and 3 will include a third wing for the kennel building, cages for the caged animal wing, an agricultural management building, a third residence, a small animal production facility, and a chemical disposal unit and utilities.

To date, there has been appropriated something like $5,300,000. We are asking for $317,000 for this year to complete the planning of phases 2 and 3 and it is currently estimated that the remaining funds needed in later years will be about $8,074,000, making it a total program of about $13.7 million.

REPAIRS AND IMPROVEMENTS

Mr. FOGARTY. Last is $1,650,000 for repairs and improvements. There are about 50 items involved most of which are quite routine. However, there is a $55,000 item to relocate services at the library of medicine so soon after its completion. Was this poor planning or some new development that could not be foreseen?

Dr. SHANNON. This is the working library at the NIH. It is not the National Library of Medicine.

Mr. Fogarty. What you say in the justification is that you want $55,000 to relocate services at the library of medicine.

Dr. Shannon. Oh, I am sorry. I do not know about the library of medicine project, sir.

Mr. Fogarty. Who does?

Mr. Simpson. The reason for this really stems from the need for additional office space in the National Library of Medicine, and the funds are requested to relocate the photography unit from the A level to the C level at the library; including the installation of the necessary air-conditioning ducts for the photographic work, new lines for chilled water, and electrical services. We would convert space that the present photo lab is in into office space for the National Library.

Mr. Fogarty. There is another $55,000 item to install a 75,000-gallon elevated storage tank for emergency supply of water for use in case of fire. What is the reason for this?

Mr. Kelly. This is in Staten Island.

Mr. Fogarty. This is the Staten Island Hospital, right.

Mr. Kelly. Mr. Chairman, while he is looking it up, may I briefly address myself to this problem.

This is the first time that we have had before you, major repairs and improvements for the hospital system. Up until now, they have been included, as you know, in the GSA budget for repairs of public buildings. This year, we are bringing before you only minor items, because, as we indicated the other day, we do not have a complete resolution of the issue, but it has been agreed that the budgeting will be done as a part of the HEW budget. Now, the kinds of items we have before you are the kinds of items that involve health and safety and we had a safety engineer's inspection of the Staten Island Hospital, and this corrective action proposed in the budget was one of the items that was required by that inspection.

Dr. Lowry. Shall I enlarge on that?

Mr. Kelly. Yes.

Mr. Fogarty. Are there other large buildings in the area that are taking the same precautions?

Dr. Lowry. This will provide our facility at Staten Island with the necessary safety measures, in accordance with the recommendations of the New York City Fire Department. Our hospital buildings there, if you recall the situation, are up somewhat higher than the rest of the surrounding area. The buildings themselves are quite high, and this will provide the necessary emergency supply of water, with enough pressure, so that it can take care of the fire at the high level.

Mr. Fogarty. How old is that building?

Dr. Lowry. 1935—30 years old.

Mr. Fogarty. I was going to bring up the Ann Arbor Laboratory, Mr. Lesinski, but you know more about that than I do.

Mr. Lesinski. I have not had time to check the file, Mr. Chairman. I am talking from memory.

CONSTRUCTION ACTIVITY OF GSA

First of all, before I go into that, Mr. Simpson here, was talking about delays in construction being due to the GSA.

First of all, may I ask a question?

Is it not true that GSA's recommendations normally run about double the cost of a conventional building?

Mr. SIMPSON. I do not know exactly, sir, except that I do know when you are talking about specialized space, such as a laboratory, your costs run a good deal more than what is usually characterized as general purpose space, and the rates vary a good deal, of course, by the locality. In this particular area around Washington, usually on general purpose space, rates run somewhere between $15 and $20 a square foot.

Mr. LESINSKI. In GSA constructed building you have marble hallways and adornments, on the building, which raises the cost.

Mr. SIMPSON. Yes, sir. Whenever you go in for that kind of adornment, and make a monumental type of building, it raises the cost considerably.

Mr. KELLY. The kind of building we are talking about, does not include such marble hallways. These are straight utilitarian buildings. The GSA designs the buildings to our requirements. These are not designed as adornments, but as utilitarian office space and laboratories.

Mr. LESINSKI. Getting back, I have a post office going up in my district. This was an addition, and I know the architects when they were requested to have blueprints drawn by a certain time, as a matter of fact, they had them sooner than expected. GSA kept putting deletions and additions on it, and it went back to the architect, and before you know it, it took 2 years for a 6-month deal.

Now, whether it is the fault of GSA, whether they are undermanned, or understaffed, I don't know, but the fault lies with the GSA in not being able to expedite these plans properly—the blueprints.

ANN ARBOR LABORATORY

Now, getting back to Ann Arbor, we are under the impression actually, on this committee that the land was donated for the building. Is that true or not?

Mr. McCALLUM. The land was donated.

Mr. LESINSKI. It was donated.

Why did you mention, Mr. Simpson, that there was a problem of litigation?

Mr. SIMPSON. There is no problem of litigation.

Mr. LESINSKI. Relocation.

Mr. SIMPSON. I do not know. I was just working from memory. I thought there was some difficulty over the site at Ann Arbor, similar to Duluth.

Mr. McCALLUM. In Duluth, there was a question of the location of a highway. The State highway department had decided to relocate a highway that would have made it necessary to change the site. This problem was resolved and there was not much of a delay. I am not aware of any delays of that kind at Ann Arbor in connection with the site. Negotiations were undertaken on securing the title to the site. The Justice Department and others reviewed the proposed transfer to insure a clear title to the site, and that does take some time. It takes more in some cases than it does in others, depending on the past history of the piece of property.

Mr. Lesinski. Isn't it true that it took—after it was given the OK, to submit to the architect for blueprinting of the plans—it took GSA 6 months to make up its mind?

Mr. McCallum. I do not quite understand your question.

Mr. Lesinski. The GSA did not take steps to get an architect to bid on it, on the plans. In other words, they delayed the whole thing 6 months before taking any action on it.

Mr. Kelly. I think that could not be ascribed to the GSA.

Mr. Lesinski. I think that is what happened.

Mr. Kelly. There was a considerable period of time in which this project was delayed while the space requirements were being reviewed—the program of requirements—and this has got to be completed before we can ask the General Services Administration to obtain architects, and the issue that was involved, was how large a facility it should be, and this issue related to the amount of office space that was required.

Mr. Lesinski. But Mr. Kelly, the impression we received—I am now talking from memory—the impression we received at that time, is that you had the type of plans; you knew what you needed; the space was allocated in Michigan for the building, the money for the architect was available. The delay was in the GSA for not submitting your planning to an architect for drawing.

Mr. Kelly. It seems to me I have a responsibility to call to your attention, the fact that this delay was not with the GSA. I was engaged in negotiations over a period of months with the Bureau of the Budget, on the size of the laboratory, and the GSA could not employ an architect, could not design the building, until the size of the building was determined upon.

Now, we may have indicated when we were here last year, that we thought that we would be in a position to ask GSA at an earlier date than we were able, but the fact is, this building was tied up while we were discussing the question of how large the facility should be and related fundamentally to the issue, as to how much office space was required. This concerns itself with how you are going to organize certain kinds of administrative activities; whether the regional offices are going to provide fiscal services and personnel services; whether the laboratory is going to provide them for themselves; or whether we are going to use these regional laboratories to provide services for a larger orbit of activities that are located in the field, such as comprehensive river basin studies.

Mr. Lesinski. Can you for the record, submit the dates that you authorized the GSA to proceed with the final planning of the architect?

Mr. Kelly. We will be glad to.

(The information supplied follows:)

The planning funds were transferred to the GSA on January 14, 1964, and the architect's contract was awarded on February 25, 1964.

Mr. Lesinski. The information I have is it took them 6 months. The delay was due to the GSA. Again, I appreciate the work the GSA is doing but there are times when there is unnecessary delay in these things. At that point, could you answer whether or not you can use any funds for construction in the 1965 budget?

Mr. McCallum. Yes. The funds could be used.

The engineer-architect contract was awarded in February of 1964. Our experience on these has been that it takes longer than a year to design them. When the construction appropriation will become available and when the designs are completed, cannot always be accurately forecast.

Mr. LESINSKI. What is the total cost of the building? Four million dollars, or how much?

Mr. McCALLUM. $2.5 million.

Mr. LESINSKI. I received a letter from Senator Hart that they could use $2.8 million.

Mr. McCALLUM. $2.5 million is what we have estimated for this laboratory—which is 50,000 square feet.

Mr. LESINSKI. You say it takes roughly 12 months to get the plans drawn?

Mr. SIMPSON. That is a minimum. That is a minimum estimate; but they have been running longer than that.

Mr. LESINSKI. Well, the only thing is, I want to know if you need to put any funds in the 1965 budget to get the building going.

Mr. KELLY. I think the answer to your question runs something like this, Mr. Lesinski. When we originally put together the 1965 budget, it was contemplated that we would be able to start construction in the fiscal year 1965; the Budget Bureau considered that our estimate was optimistic, and that we would not be able to start until the fiscal year 1966. I think this condition still prevails.

There is a possibility that you could start construction at the very end of the fiscal year 1965, if the architects move expeditiously and we do not run into any difficulties. The likelihood is we could start construction in the last quarter of the fiscal year 1965.

If, on the other hand, we were to run into some of the difficulties we ran into, in some of the other projects, we would not be able to start until the early part of the fiscal year 1966. If the 1966 funds were available at the beginning of the fiscal year, it is likely the project would not be delayed more than 2 months, if it were delayed at all.

Mr. LESINSKI. How much could you use in fiscal year 1965?

Mr. KELLY. If we start construction, we would have to have the entire amount of money. You have to incur an obligation of the total amount, of $2½ million.

Mr. LESINSKI. $2½ million?

Mr. KELLY. Yes, sir.

Mr. LESINSKI. This thing is very essential in our area. Not only for Michigan, but Illinois, Indiana, and Wisconsin, also. We would like to see some action taken on this project. The delay, whoever caused it, you would have to satisfy me on the point, whether it was GSA, but I can recognize there are certain things that always are responsible for putting things off. I would like to get this project going, sir. You need $2.5 million?

Mr. KELLY. Yes, sir.

Mr. FOGARTY. Mr. Lesinski, the thought occurred to me while you were questioning the witnesses, if the money was put in for 1965, and the construction was not able to be started until 1966, of course, it would not cost the taxpayers an extra dime, because they would not spend it anyway. It does not make any difference in Federal expenditures whether it is appropriated in 1965 or 1966.

Mr. LESINSKI. In other words, the simple thing is that we are trying to start the Laboratory as soon as possible; if we cannot begin construction in the 1965 budget, then at least the funds would be available in the 1966 budget for the construction which would be a so-called carryover.

Mr. KELLY. That is correct, sir.

Mr. LESINSKI. No more questions. Thank you.

Mr. FOGARTY. Is there anything else you want to say?

Mr. SIMPSON. No, sir.

JUSTIFICATION MATERIAL

(Following is the justification material submitted to the committee:)

BUILDINGS AND FACILITIES

Amounts available for obligation

	1964	1965
Appropriation or estimate	$16,311,000	$21,512,000
Unobligated balance brought forward	47,535,595	30,216,710
Unobligated balance carried forward	−30,216,710	−8,762,657
Total	33,629,885	42,966,053

Obligations by activities

Description	1964 estimate	1965 estimate	Increase or decrease
Environmental health facilities	0	$1,441,000	+$1,441,000
Water quality standards research laboratories	$1,795,680	2,444,000	+648,320
Arctic Health Research Center	350,000	3,940,000	+3,590,000
General office building extension, NIH	320,000	5,530,000	+5,210,000
Gerontology Research Facility, NIH	0	6,970,000	+6,970,000
NIH Animal Center (farm)	505,000	1,183,987	+678,987
Repairs and improvements:			
National Institutes of Health	1,966,000	1,650,000	−316,000
Community health	386,000	245,000	−141,000
Environmental health	29,000	174,000	+145,000
Bureau of Medical Services:			
Hospitals	0	450.000	+451,000
Foreign quarantine	0	20,000	+21,000
National Library of Medicine	0	55,000	+55,000
Subtotal, repairs and improvements	2,381,000	2,595,000	+214,000
Water pollution control laboratories	10,892,640	2,930,000	−7.962,640
Extension to Clinical Center cafeteria, NIH	24,000	651,650	+627,650
Library relocation, NIH	53,000	797,000	+744,000
Warehouse extension, (building 13), NIH	52,500	684,000	+631,500
Mental Health-Neurology-Cancer cafeteria, NIH	51,000	702,000	+651,000
Biologics Standards Laboratory Annex, NIH	4,107,320	73,150	−4,034,170
Communicable Disease Center	9,500,000	2.000.000	−7,500,000
Cancer Research Facility, NIH	0	9,894,000	+9,894,000
Service building (building 12), NIH	1,530,000	166,500	−1,363,500
Master utilities extension, NIH	960,200	75,000	−885,200
Laboratory facilities, Puerto Rico, NIH	42,000	755,000	+713,000
Research facilities, Lexington, Ky., NIH	327,180	4,660	−322,520
Animal quarters, NIH	65,000	22,000	−43,000
Library facilities	291,565	0	−291,565
Dental Research Building, NIH	63,000	11,399	−51,601
Surgical facilities, NIH	23,800	2,707	−21,093
General office building, NIH	295,000	93,000	−202,000
Total obligations	33,629,885	42,966,053	+9,336,168

New obligational authority by activity

Description	1964 estimate	1965 estimate	Increase (+) or decrease (−)
Environmental health facilities	0	$1,500,000	+$1,500,000
Water quality standards research laboratories	0	310,000	+310,000
Arctic Health Research Center	$500,000	3,790,000	+3,290,000
General office building extension, NIH	0	5,500,000	+5,500,000
Gerontology Research Facility, NIH	0	7,500,000	+7,500,000
NIH Animal Center (farm)	0	317,000	+317,000
Repairs and improvements:			
National Institutes of Health	1,966,000	1,650,000	−316,000
Community health	386,000	245,000	−141,000
Environmental health	29,000	174,000	+145,000
Bureau of Medical Services	0	471,000	+472,000
National Library of Medicine	0	55,000	+55,000
Subtotal, repairs and improvements	2,381,000	2,595,000	+214,000
Water pollution control laboratories	6,290,000	0	−6,290,000
Extension to Clinical Center cafeteria, NIH	360,000	0	−360,000
Library relocation, NIH	900,000	0	−900,000
Warehouse extension, (building 13), NIH	780,000	0	−780,000
Mental Health-Neurology-Cancer cafeteria, NIH	800,000	0	−800,000
Biologics Standards Laboratory Annex, NIH	4,300,000	0	−4,300,000
Total, new obligational authority	16,311,000	21,512,000	+5,201,000

Obligations by objects

		1964 estimate	1965 estimate	Increase or decrease
	PUBLIC HEALTH SERVICE			
25	Other services	$2,430,000	$2,069,000	−$361,000
31	Equipment	450,000	660,000	+210,000
32	Lands and structures	2,690,000	4,500,000	+1,810,000
	Total, Public Health Service	5,570,000	7,229,000	+1,659,000
	ALLOCATION TO GENERAL SERVICES ADMINISTRATION			
24	Printing and reproduction	45,000	50,000	+5,000
25	Other services	2,340,000	2,000,000	−340,000
32	Lands and structures	25,674,885	33,687,053	+8,012,168
	Total, General Services Administration	28,059,885	35,737,053	+7,677,168
	Total obligations	33,629,885	42,966,053	+9,336,168

Summary of changes

1964 enacted appropriation	$16, 311, 000
1965 estimate	21, 512, 000
Total change	+5, 201, 000
Increases:	
1. Environmental health facilities	1, 500, 000
2. Water quality standards research laboratories	310, 000
3. Arctic health research center	3, 790, 000
4. General office building extension, NIH	5, 500, 000
5. Gerontology research facility, NIH	7, 500, 000
6. NIH animal center (farm)	317, 000
7. Repairs and improvements:	
National Institutes of Health	1, 650, 000
Community health	245, 000
Environmental health	174, 000
Bureau of Medical Services, hospitals	450, 000
Bureau of Medical Services, foreign quarantine	21, 000
National Library of Medicine	55, 000
Gross increases	21, 512, 000
Decreases:	
1. Water pollution control laboratories	6, 290, 000
2. Arctic health research center	500, 000
3. Extension to Clinical Center cafeteria	360, 000
4. Library relocation, NIH	900, 000
5. Warehouse extension (building 13), NIH	780, 000
6. Mental health-neurology-cancer cafeteria, NIH	800, 000
7. Biologics standards laboratory annex, NIH	4, 300, 000
8. Repairs and improvements	2, 381, 000
Gross decreases	16, 311, 000
Net change requested	+5, 201, 000

Buildings and facilities

	Budget estimate to Congress	House allowance	Senate allowance	Appropriation
1961[1]	$3, 135, 000	$3, 135, 000	$3, 470, 000	$3, 470, 000
1962	21, 745, 000	[2] 18, 230, 000	18, 230, 000	18, 230, 000
1963	29, 761, 000	31, 000, 000	33, 200, 000	33, 200, 000
1964	19, 072, 000	13, 811, 000	16, 311, 000	16, 311, 000
1965	21, 512, 000			

[1] Prior to 1961 direct construction funds were appropriated on an individual project basis.
[2] Supplemental of $3,515,000 not considered by the House.

INTRODUCTION

This appropriation includes all proposed direct construction items of the Public Health Service except construction of Indian health facilities, and all continuing projects except construction of shellfish laboratories (appropriated under "Milk, food, interstate, and community sanitation" in 1962), and the following facilities of the National Institutes of Health:

1. Mental health-neurology research facility—appropriated under "Mental health activities" and "Neurology and blindness activities," 1961.
2. Rocky Mountain Laboratory construction—appropriated under "Allergy and infectious disease activities," 1962.
3. Cancer research facility (planning funds)—appropriated under "National Cancer Institute," 1961.
4. Gerontology research facility (planning funds)—appropriated under "National Heart Institute," 1962.

Also included is an estimate to continue a program of major alterations, repairs and improvements, including funds for the Bureau of Medical Services heretofore budgeted by the Public Buildings Service, GSA.

The total estimate for 1965 is $21,512,000.

Environmental health facilities

1965 appropriation estimate	$1,500,000

Over the past few years the environmental health programs of the Public Health Service have expanded several fold. In 1960 a total staff of 1,320 employees were engaged in these activities, and in the 1965 budget a total of 4,093 positions are being requested. All of the advisory groups to the Public Health Service that have reviewed environmental health activities have recommended substantially increased Federal effort in these programs which include air pollution, water pollution, radiological health, occupational health, environmental engineering, food protection, and the basic environmental health sciences essential to the support of all these programs. Our population growth, urbanization, industrialization, and rapidly changing technology are resulting in an ever-increasing contamination and pollution of our environment. If we are to protect human health from the adverse effects of this contamination and pollution, increased Federal support must be provided for research, training, technical assistance, abatement, and control activities.

The growth that has occurred in the recent past has overrun the permanent laboratory facilities which were provided for the Service for environmental health activities and has made it necessary to house more and more of our programs in leased and temporary facilities. In the two major areas of concentration of our personnel—Cincinnati and Washington—we now have approximately 1,400 personnel housed in temporary or leased facilities. In each of these cities we now have personnel in six different locations. This type of solution to our space problem is both costly and relatively inefficient. The efficient design of laboratory space and installation of specialized equipment is greatly handicapped when it is necessary to remodel leased facilities. It is difficult and costly to provide proper laboratory support and general administrative services when functions are carried on in a number of different locations.

In addition there is a clear need to construct permanent facilities to meet our future program needs in research, training, technical assistance, abatement, and related activities. The construction of permanent laboratories would allow us to consolidate research and related activities now carried out in numerous locations in temporary and leased structures together with the program growth we now foresee for the future.

Of particular importance is the need to provide specialized laboratory facilities for our new programs in toxicology and pharmacology research under our environmental health sciences program. It is through these types of studies that we will be able to increase our basic fundamental knowledge pertaining to the biological effects of environmental contaminants such as toxic chemicals and harmful physical forces. In addition we would conduct broad epidemiological and ecological studies relating to man in his environment. Such studies would involve the application of computer techniques using mathematical models and other refined statistical procedures to analyze data about man's environment. It is through such studies that we anticipate the development of preventive and control programs to protect man from the health hazards in his environment.

To meet the critical need for permanent specialized facilities, we are requesting $1,500,000 which, together with $785,000 appropriated in 1961 will provide $2,285,000 to prepare plans and specifications for environmental health facilities. This amount will enable planning for 400,000 net square feet of space for more than 1,500 employees. The facilities would contain general and special purpose space.

Water quality standards research laboratories

1965 appropriation estimate	$310,000

The 1963 appropriation included $4 million for the construction of two water quality standards laboratories for marine and fresh water research. Locations have been selected for these laboratories at Kingston, R.I., and Duluth, Minn., respectively.

Architect's contracts have been awarded for both laboratories and planning is underway.

The 1965 request of $310,000 provides for portable equipment for these two laboratories.

Cost estimates

Location	Planned personnel strength	Square feet	Construction cost	Portable equipment cost	Total cost	Estimated completion date
Kingston, R.I.	102	35,000	$1,716,000	$150,000	$1,866,000	October 1965.
Duluth, Minn.	133	44,000	2,284,000	160,000	2,444,000	January 1966.

Arctic Health Research Center

1965 appropriation estimate	$3,790,000

A new Arctic Health Research Center is necessary to provide adequate laboratory facilities to meet the needs of the environmental health research program in Alaska. At present, the activities of the Arctic Health Research Center are conducted at Anchorage in 4 rented buildings and 17 additional structures including quonset huts and tent shelters. These leased and temporary facilities are inadequate for the specialized research activities that the Center must conduct.

In 1964, $500,000 was appropriated to prepare plans and specifications for the new Arctic Health Research Center. The plans for the Center are being developed in conjunction with those for the Alaska Regional Water Pollution Control Laboratory to provide the maximum utilization of administrative and supporting facilities for both water pollution and arctic health activities.

It is planned to construct the new Arctic Health Research Center on the campus of the University of Alaska in Fairbanks. Such a location will permit close association with the University of Alaska, which is expanding its science facilities, and also with the research facilities of other Federal agencies that are being constructed on the campus. The University of Alaska has agreed to donate a site to the Government for the Arctic Health Research Center and the Water Pollution Control Laboratory.

The preliminary plans for the facility contemplate development of plans and specifications at a cost of $350,000 for a facility of 25,000 net square feet. Construction cost is estimated at $3,940,000, for which we are requesting $3,790,000 in new obligational authority and $150,000 unobligated balance of planning funds. This amount will provide for all costs except initial portable equipment.

Cost estimate

I. Plans and specifications	$350,000
II. Construction:	
A. Improvements	
1. Building construction	2,920,000
2. Site development	90,000
3. Utilities, on site	70,000
4. Utilities, off site	200,000
5. Fixed laboratory equipment	320,000
6. Contingencies	180,000
Total	3,780,000
B. Supervision	160,000
Total	4,290,000

General Office Building Extension, NIH

1965 appropriation estimate	$5,500,000

In 1962, $700,000 was provided for planning an addition to the General Office Building which was occupied in October 1961.

The National Institutes of Health has utilized rented space over an extended period of approximately 7 years. The experience during that time demonstrates the impracticability of continuing this practice on a permanent basis. Separating programs from the parent organization and from each other creates many problems in communication and program direction, and results in additional expenses for servicing.

The funds requested in 1965 will provide for the construction of this addition which will provide offices, conference rooms, and supporting services for 1,100 people now located in rental quarters.

The program of requirements was approved on May 23, 1963, for a structure comprising 230,000 square feet. The total cost of planning and construction is estimated at $6,200,000.

ESTIMATED COMPLETION DATES

Program of requirements: Completed and approved.
Retain architect/engineer: Contract signed and notice to proceed issued by PBS August 27, 1963.
Diagrammatic drawings: February 1964.
Tentative drawings: May 1964.
Working drawings: December 1964.
Construction: July 1966.

Gerontology Research Facility, NIH

1965 appropriation estimate.. $7,500,000

In 1962 Congress appropriated $1 million for planning a facility for basic research in gerontology (the study of the problems of aging). The purpose of this program is to increase the amount and quality of research on all aspects of aging by developing a regional center of aging research.

The program will be developed by the Gerontology Branch of the National Heart Institute, utilizing the unique resources available at the Baltimore City hospitals, namely, (1) a group of basic scientists who are already engaged in research on various aspects of aging, (2) a teaching hospital with full-time staff oriented toward and actively engaged in research, (3) a wide range of patients available for study in various divisions of the hospital, (4) a group of community-residing subjects between the ages of 18 and 101 who have volunteered to serve for studies on aging, (5) a public housing project which will make available additional subject material, and (6) an active teaching program conducted by the staff of the Baltimore City hospitals.

The funds requested in 1965 are required for the construction of this facility.

ESTIMATED COMPLETION DATES

Program of requirements: Completed and approved on December 27, 1962.
Architect/engineer retained: May 1963.
Diagrammatic drawings: Completed.
Tentative drawings: April 1964.
Working drawings: January 1965.
Construction: July 1967.

NIH Animal Center (Farm)

1965 appropriation estimate.. $317,000

The NIH Animal Center at Poolesville, Md., is a multiphase project which has three basic purposes:

1. To serve as an extension of the animal holding and production program on the Bethesda reservation, and provide urgently needed facilities for large animals such as horses, cows, and sheep.
2. To provide sufficient space to conduct animal behavioral studies by the National Institute of Mental Health, and facilities for the observation of noncommunicable diseases among large animals.
3. To release more space on the Bethesda reservation for the production of germ-free and specific pathogen-free animals by the gradual transfer to the NIH Animal Center of animal holding operations and a portion of the animal production program.

Planning funds of $517,000 for phases II and III were made available in 1963. However, it was necessary to use a portion of these funds ($317,000) to enable the phase I construction contract to be awarded. Therefore, the 1965 request represents a restoration of these planning funds. The amount required for construction of phases II and III is estimated at $8,074,000.

The program of requirements is being prepared and the architect-engineer is expected to be retained in July 1964, using the funds ($200,000) now available.

Facilities planned for these phases will include an animal production building, an agricultural management building, a third wing for the kennel building, a third residence, a records storage building, a building for hazardous laboratory operations, an animal virus isolation facility, a waste chemical disposal area, and cages for the primate wing.

Estimated completion dates

	Phase I	Phase IA	Phases II and III
Program of requirements	Completed	Completed	March 1964.
Architect/engineer retained	do	October 1963	July 1964.
Diagrammatic drawings	do	January 1964	September 1964.
Tentative drawings	do	April 1964	November 1964.
Working drawings	do	September 1964	August 1965.
Construction	November 1964	January 1966	June 1967.

REPAIRS AND IMPROVEMENTS

A. National Institutes of Health

1965 appropriation request	$1, 650, 000

NIH RESERVATION, BETHESDA, MD.

1. Replacement of 4 passenger elevators and 1 freight elevator in buildings 1, 2, 3, and 8	300, 000
These elevators are obsolete (old and slow) and in need of major repair. Replacement is recommended instead of repair.	
2. Modernization of central building air-conditioning system in buildings 2 and 4	700, 000
The activities in these buildings have changed from office and light laboratory use to very heavy laboratory use. The air-conditioning systems, originally designed for heating and ventilating use only, are totally inadequate.	
3. Replacement of deteriorated galvanized waste stacks in building 10 with acid-resistant stacks	200, 000
These stacks are failing, 1 at a time, and all should be replaced to avoid wholesale failure. About ⅔ of the stacks have been replaced by GSA during the past 3 years. The funds requested will replace the remaining stacks.	
4. Correction of major deficiencies in the building 10 air-conditioning system	300, 000
The supply and exhaust from building 10 are out of balance by about 90,000 cubic feet per minute. This major discrepancy in the amount of supply air results in some areas having less design cooling capacity, major infiltration of outside air in summer and winter, and generally poor air distribution and air balance. Major modifications of the air supply systems are needed.	

ROCKY MOUNTAIN LABORATORY, HAMILTON, MONT.

1. Repair of buildings, roadways, and grounds	18, 000
This consists of repair of masonry and concrete damaged due to freezing and ordinary wear, repair of walls, repair and replacement of portions of steam, electrical, and water systems, repair of roadways and lawns, and replacement of floors.	
2. Remodeling and renovation of central glassware washing and sterilization unit	55, 000
The present facilities, constructed in 1948, lack sufficient space and proper equipment to provide clean glassware by the most efficient and economical methods. With the completion of the new buildings now under construction, space will be available to expand and modernize these facilities.	

3. Renovation and replacement of distilled water equipment and distribution system	23,000
The present distilled water system was provided many years ago and is inadequate for present needs. The new system will pipe distilled water directly to areas requiring large quantities.	
4. Replacement of emergency electrical generator	23,000
The present emergency generator was provided in 1938 and is unreliable and inadequate to provide emergency service to the laboratory. The recently constructed mouse-breeding building, infectious animal building, and insectary building require uninterrupted electrical service. Power for the Rocky Mountain Laboratory is subject to interruptions, particularly during the winter months. Providing adequate emergency service to operate laboratory facilities is a necessity in this mountainous area.	
5. Replacement of brine and ammonia refrigeration systems with freon gas systems	27,000
Most of the cold and deep-freeze rooms at the Rocky Mountain Laboratory were constructed in 1938 and are refrigerated by a brine and ammonia system. This system is dangerous and obsolete and needs replacement with the modern freon gas-type system.	
6. Survey of ventilating and cooling systems, buildings 3 and 5	4,000
Funds for replacement of this equipment are not being requested in 1965. However, a request is being made for funds to make a complete survey of the needs of the ventilating and cooling systems, including the adequacy of the boiler plant, steam supply system, electrical distribution system, and older ventilating and cooling facilities.	

B. Community health

COMMUNICABLE DISEASE CENTER

1965 appropriation estimate	$245,000
(*a*) 1600 Clifton Rd	217,000
(1) Building repairs and improvements: As a result of normal wear and usage, it is necessary to repair the damage to the swinging doors. Certain changes which have been found to be necessary include acoustical treatment of offices, electrical lighting improvements, modernizing the fire alarm system, ventilation of service galleries, additional pipe supports, heating improvements, sidewalk changes, and the installation of a new mail chute	196,000
(2) Built-in equipment, repairs, and improvements: Modification is required on the instrumentation of the centrifugal compressors for better control. A decontamination unit is required for the vacuum system for operating safety	21,000
(*b*) Chamblee facilities	28,000
Building repairs and improvements: Normal wear and tear on the buildings, increased usage, and deterioration from age require repairs to the steam distribution system and structures, the addition of electrical secondary power, and modification of the gas supply system	28,000

C. Environmental health

1965 appropriation estimate	$174,000
(1) Sanitary Engineering Center and related facilities	144,000
(*a*) Outside utilities and site work	48,000
The proposed work includes improvement of roadway access to main loading area, replacement of perimeter fencing, extension and connection of storm drainage system into city combination sewer system, engineering survey of hillside slippage condition, and installation of silt removal pump in raw water supply system.	
(*b*) Building and structures	96,000
The proposed work includes exterior painting of temporary buildings, relocation and enlargement of cofeteria facilities in the Center, installation of roll-up doors for Center loading dock area, installation of hydraulic lift at Center pilot plant entrance, and replacement of oil bath filters in the air-conditioning system of the Center.	
(2) Northeastern Radiological Health Laboratory	30,000
(*a*) Outside utilities and site work	11,000
The proposed work includes resurfacing of roadway and parking lot and provision of shelters for outside maintenance equipment, including necessary site grading.	
(*b*) Buildings and structures	19,000
The proposed work covers items of building exterior maintenance, including pointing, sandblasting, painting, and rehabilitation of roof; and interior maintenance including painting, installing new floor tile, and repair and improvement of heating and ventilating systems.	

D. Bureau of Medical Services, Division of Hospitals

1965 appropriation estimate	$450,000
Boston, Mass.:	
(*a*) Replacement of air-conditioning units in the operating room suite, building No. 1	8,500
Fort Worth, Tex.:	
(*a*) Install automatic sprinklers, building No. 24 (Gage-Babcock Recommendation 29)	17,700
(*b*) Install automatic sprinklers, buildings 2 and 1 (Gage-Babcock Recommendations 28, 37)	20,000
(*c*) Install automatic sprinklers, buildings 7, 13–A, 13–B, and 18 (Gage-Babcock recommendations 28, 32, 33, 35)	17,800
Lexington, Ky.:	
(*a*) Repairs, elevators Nos. 4, 5, 6, 11, and 12	85,000
(*b*) Sandblast, clean, and waterproof all exterior limestone facings and trim on administration, EA and WA buildings, and south wall of hospital, EA and WA buildings, and south wall of hospital, EH and WH buildings (approximately 30,000 square feet)	15,000
(*c*) Emergency exit in male patients' garment shop (Gage-Babcock Recommendation No. 52)	550
(*d*) Cut opening in masonry wall between storehouse and woodcrafts industry and install sliding-type fire door	3,800

Memphis, Tenn.:	
(*a*) Replace 8 knee-operated water mixing valves, buildings Nos. 1 and 4	1,100
(*b*) Replace metal exhaust hood over dishwashing machine, building No. 4	1,000
(*c*) Repair stair tread bearing surfaces and install safety treads, buildings Nos. 1 and 4	1,500
(*d*) Fusible link door closers for 10 pair metal-clad double doors in corridor, buildings Nos. 1 and 4	1,300
(*e*) Interior painting 6 large ward areas, buildings. Nos. 1 and 4; boilerroom, laundry building, No. 9; quarters buildings Nos. 2, 3, 5, and 8	15,000
New Orleans, La.:	
(*a*) Tuckpointing and waterproofing brick walls on all buildings	60,000
(*b*) Enclose stairwells and provide doors, buildings 2, 6, 12, and 16 (Gage-Bagcock Recommendations 51, 52, 57, and 58)	7,800
(*c*) Interior painting, entire hospital building	48,000
(*d*) Repairs to roof and parapet wall and enclosure of rear porch, building 9 (quarters of deputy medical officer in charge)	3,000
Norfolk, Va.:	
(*a*) Electrical changes	12,000
San Francisco, Calif.:	
(*a*) Waterproofing	9,000
(*b*) Fire-resistant acoustical treatment	23,000
(*c*) Replace existing deteriorated battleship linoleum	25,000
Savannah, Ga.:	
(*a*) Install 12 foot-operated lavatories	4,000
(*b*) Install 94 exterior hung aluminum screens in windows of ward areas	2,850
Staten Island, N.Y.:	
(*a*) Replace defective ceiling and install new lighting in main operating room corridor, 4th floor, building No. 1	3,000
(*b*) Install 75,000-gallon elevated storage tank for emergency supply of water for use in case of fire	55,000
(*c*) Installation of fire-resistant acoustical ceilings and soundproofing for walls in all laboratory areas	10,000
Total	449,900
Rounded	450,000

E. Bureau of Medical Services, foreign quarantine

1965 appropriation estimate	$21,000
Miami Beach, Fla.:	
Upgrade existing shower, toilet, and locker room, building No. 8	5,000
Upgrade toilet facilities, buildings 1, 2, 3, 4, 5, and 6	5,500
Modernization of electrical systems in buildings 1, 2, 3, 5, and 6	4,500
Replacement of 700 feet of sewerlines	6,000
Total	21,000
Total, Bureau Medical Services	471,000

F. National Library of Medicine

1965 appropriation request	$55,000

Funds are requested to relocate the photographic services from A to C level, including installation of air-conditioning ducts, new lines for chilled water, and electrical services; and to partition space presently used for photographic services into office space.

OFFICE OF THE SURGEON GENERAL

WITNESSES

DR. DAVID E. PRICE, DEPUTY SURGEON GENERAL
DONALD F. SIMPSON, EXECUTIVE DIRECTOR
HARRY L. DORAN, CHIEF FINANCE OFFICER
JAMES F. KELLY, DEPARTMENT BUDGET OFFICER

SALARIES AND EXPENSES

Object classification

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
11 Personnel compensation:			
Permanent positions	4,218	4,548	4,705
Positions other than permanent	53	29	29
Other personnel compensation	38	35	21
Total personnel compensation	4,309	4,612	4,755
12 Personnel benefits	377	393	396
21 Travel and transportation of persons	133	188	188
22 Transportation of things	25	21	21
23 Rent, communications, and utilities	166	156	156
24 Printing and reproduction	167	168	168
25 Other services	43	47	47
Services of other agencies	195	244	190
26 Supplies and materials	66	63	64
31 Equipment	66	52	48
Total obligations	5,546	5,944	6,033

Personnel summary

	1963 actual	1964 estimate	1965 estimate
Total number of permanent positions	627	591	580
Full-time equivalent of other positions	7	4	4
Average number of all employees	557	542	542
Employees in permanent positions, end of year	567	536	545
Employees in other positions, end of year	15	0	0
Average GS grade	8.0	8.5	8.6
Average GS salary	$7,498	$8,206	$8,307

Program and financing

[In thousands of dollars]

	1963 actual	1964 estimate	1965 estimate
Program by activities:			
1. International health activities	174	232	239
2. Management and central services	5,377	5,712	5,794
3. Adjustment of prior year costs	−11		
Total program costs, funded [1]	5,540	5,944	6,033
Change in selected resources [2]	6		
Total obligations	5,546	5,944	6,033
Financing:			
Comparative transfers to other accounts		300	
Unobligated balance lapsing	115		
New obligational authority	5,661	6,244	6,033
New obligational authority:			
Appropriation	5,850	6,091	6,033
Transferred from (42 U.S.C. 226)—			
"Chronic diseases and health of the aged"		5	
"Communicable diseases activities"		4	
"Community health practice and research"		3	
"Nursing services and resources"		1	
"Hospital construction activities"		1	
"General research and services, National Institutes of Health"		17	
"National Cancer Institute"		15	
"National Institute of Mental Health"		15	
"National Heart Institute"		15	
"National Institute of Neurological Diseases and Blindness"		28	
Transferred to—			
"Operating expenses, Public Buildings Service," General Services Administration (76 Stat. 728)	−2		
"Community health practice and research" (42 U.S.C. 226)	−187		
Appropriation (adjusted)	5,661	6,195	6,033
Proposed transfer from "National Heart Institute" due to Uniformed Services Pay Act of 1963		49	

[1] Includes capital outlay as follows: 1963, $82,000; 1964, $58,000; 1965, $48,000.

[2] Selected resources as of June 30 are as follows: Unpaid undelivered orders, 1962, $154,000 (1963 adjustment, −$11,000); 1963, $149,000: 1964, $149,000; 1965, $149,000.

Mr. FOGARTY. Dr. Price, do you have a statement on salaries and expenses?

GENERAL STATEMENT

Dr. PRICE. I have a short opening statement, sir, which I will read if I may, Mr. Chairman.

Our request for fiscal year 1965 represents essentially a hold-the-line budget. The only program increases proposed are for five positions and $56,300 covering policy and appraisal activities. The balance of the increase is the net result of adjustments for uncontrollable costs less nonrecurring items of expense.

Last year we talked to you about proposed organizational changes designed to implement recommendations of the Advisory Committee on Public Health Service Personnel Systems—the Folsom Committee—and the Surgeon General's Committee on Organization. The study of our operations to guide the organizational assignment of functions for the most efficient use of our resources is a continuing one. This year, in addition to several internal shifts among subactivities under "Management and central services," the budget reflects two groups of transfers involving other appropriations. The first group covers the actual transfer of $104,000 to finance servicewide grant policy functions that have been transferred to the Office of the Surgeon General. The second group represents a comparative transfer in the amount of $300,000 of base to programs that hereafter will reimburse the service and supply fund for accounting services previously financed under this appropriation.

The major change in the method of presenting the budget eliminated the old subtitle "Other Central Services and Contingent Items" and brings together under a new heading "Policy and Appraisal" a number of related functions. Included under this grouping are internal audit, the chief professional officers, management policy, investigations, patents, and science information. We hope this presentation will be more informative than the scattered approach previously used. Under this heading we are requesting an increase of five positions and $46,300 for the new Division of Internal Audit which was established as a result of a comprehensive study of the internal audit and management appraisal activities of the Service.

The study demonstrated that management audit and appraisal activities must be broadened, reorganized, and strengthened if the Service is to continue to meet its responsibility for economical and efficient operations. These activities have been organized and broadened so that the Division's functions include not only those of the former Internal Audit Branch in the Division of Finance but also management appraisal activities of the recurring type previously conducted by the management policy and appraisal staff. The small management policy staff remaining will devote its entire time to management problem-solving activities.

Mr. Fogarty. Thank you, Doctor. The amount available for 1964 is $5,944,000 and the request for 1965 is $6,033,000, an increase of $89,000. Now, since this increase is not as much as the increase in mandatory costs, this will result in a net decrease of 11 positions, as I see it. Is that right? There is a reduction of 16 in the Division of Finance?

Dr. Price. This is correct.

Mr. Fogarty. This is largely due to the shifting of some of this work elsewhere, is it not?

Dr. Price. That is correct. Yes, sir.

TRANSFERRED ACTIVITIES

Mr. Fogarty. Now, how many positions are budgeted elsewhere to carry on the transferred activities?

Mr. Kelly. The Central Payroll Division, Mr. Chairman, is a part of the Office of the Secretary's Working Capital Fund. I think there are 175 positions. They provide services for the entire Department, including the services that were formerly performed in the Office of the Surgeon General for the Public Health Service.

The result of this transfer is to bring about a savings of about $500,000 in the total Department below that which would have been incurred had we continued under the old system of payrolling and reduction of about 100 positions, but I cannot give it to you in terms of just one organizational unit.

INTERNAL AUDIT

Mr. FOGARTY. You are requesting five additional positions for a Division of Internal Audit. This is something new, isn't it?

Dr. PRICE. Yes; this is.

Mr. FOGARTY. Is this part of the program of tightening up your fiscal controls, or what?

Dr. PRICE. This is a part of our tightening up on fiscal controls, but it is also an attempt to develop a better coordinated activity to improve our whole policy development in the management field.

INTERNATIONAL HEALTH ACTIVITIES

Mr. FOGARTY. Over 95 percent of this appropriation is for management and central services, but this also finances international health activities. Do you have any problems or important developments to report?

Dr. PRICE. In the area of international health activities, sir, I would say that our principal efforts here have been in the direction of continuing the staff work for the Surgeon General and Public Health Service participation in the several international organizations; such as the World Health Organization and the Pan American Health Organization, in which we have very important participation.

We have also utilized the Office of International Health as the focal point for all of our negotiations with the Agency for International Development, and we have begun a considerably closer working arrangement with that organization, attempting to provide technical backup for its activities, and at the present time, are spending a good deal of staff effort in developing staff papers, and arranging for the identification of individuals within the Public Health Service who can assist them with many of their special problems.

(The requested information follows:)

INTERNATIONAL ACTIVITIES OF THE PUBLIC HEALTH SERVICE

The Public Health Service cooperates with national and international groups, both governmental and nongovernmental, serving mainly as a source for scientific information, expert advice, technical assistance, and, in some instances, financial support to international health programs.

MULTILATERAL HEALTH ACTIVITIES

Surgeon General Thomas A. Parran of the Public Health Service was elected President of the International Health Conference in 1946, which drafted the constitution of the World Health Organization. There were 62 signatory powers in 1946. The Organization now has 120 members and the responsibilities of the Public Health Service in international health have increased along with those of the Organization. In all World Health assemblies, except one, the United States has been represented by the Surgeon General. The United States has been a member of the Executive Board for the past 12 years, and sends representatives of the Assistant Surgeon General level to Board meetings twice yearly. Over 85 Public Health Service officers serve on expert committees in their specialties, representing 40 health and medical fields. In cooperation with the State Department, the Public Health Service is responsible for determining the policy of the United States on world health problems coming before the World Health Organization. The Public Health Service also participates in the development of the U.S. position on health-related matters arising in meetings of the Food and Agriculture Organization, the United Nations Children's Fund, the International Labor Organization, the Social Commission, the South Pacific Commission, and other United Nations activities.

The Pan American Health Organization, the American regional office for the World Health Organization, was actually started in 1902, when the governments of the Americas formed the Pan American Sanitary Organization. Since 1902, the Public Health Service has supplied personnel and technical support for this Organization. From 1902 to 1936, the Surgeon General of the Public Health Service also served as Director of the Organization. Another Public Health Service officer served as Director from 1947 to 1959. At present, the Deputy Director of the Organization is serving through an arrangement which permits the Service to assign officers to PAHO and to WHO on request.

The United States also participates in the western Pacific region of the World Health Organization through representation at its meetings by a Public Health Service officer.

BILATERAL HEALTH ACTIVITIES

The Public Health Service has become increasingly active in international health for over 20 years, beginning with its work in Latin America in cooperation with the Institute of Inter-American Affairs in the early 1940's and later the Marshall plan and successor organizations throughout the world.

Although the number of Public Health Service officers assigned to oversea health programs of the Agency for International Development have been slowly decreasing, special or emergency projects are increasing. For example, the Agency for International Development contracted with the Public Health Service for four surgical teams to be located in provincial hospitals in South Vietnam. The purpose of this project is to assist Vietnamese civilians requiring care because of inadvertent war wounds and other surgical problems. The teams are also concerned with raising the general level of surgical care in these areas through the demonstration of techniques and the training of local personnel. Twenty-three Public Health Service officers are assigned to this project; 9 at Cantho, 8 at Danang, and 6 at Nhatrang, including 8 medical officers, 10 nurses, and 5 medical technologists. The costs of the project are financed by the Agency for International Development.

On the other hand, officers assigned to the Peace Corps have increased from 45 to 73 during fiscal year 1963. Sixty-four are assigned overseas; their primary responsibility is the medical care of the Peace Corps volunteers.

In addition to manpower, the Public Health Service makes available to these organizations its resources in technical and research facilities and assistance in projects such as epidemics of cholera, poliomyelitis, etc. During fiscal year 1963, 592 foreign health workers from 87 countries were programed for professional studies at U.S. universities, hospitals, and other health facilities on behalf of the Agency for International Development.

The Public Health Service, in the prosecution of its domestic and international responsibilities, relies on its relationships with the health professions, voluntary professional organizations, educational and service institutions, and other voluntary and official agencies in the United States for continuing support in international health activities.

Several of the specific Service programs which are active in international matters are discussed in the paragraphs which follow.

EXCHANGES WITH SOVIET UNION

Since 1958, there has been an "umbrella" agreement between the U.S. Government and the Soviet Government covering exchanges in scientific, technical, cultural, and other fields. For the past 4 years, the health and medical section of the overall agreement has been negotiated and administered directly between the Public Health Service and the Ministry of Health of the U.S.S.R. During the calendar years 1962 and 1963, 33 U.S. scientists visited the U.S.S.R. as members of official delegations, and 36 Soviet scientists visited the United States as members of official delegations. Twenty individual U.S. research scientists visited the U.S.S.R. for periods of up to 4 months and 31 individual Soviet research scientists visited the United States for periods of up to 4 months. In addition, 2 joint scientific meetings were held in the U.S.S.R., involving 11 U.S. scientists, and 2 joint scientific meetings were held in the United States, involving 5 Soviet scientists.

ENVIRONMENTAL HEALTH

There has been an increasing amount of international activity in environmental health. Engineers and scientists from the air pollution program have represented the United States on pollution control committees of the Organization for Economic Cooperation and Development and of the World Health Organization, and have consulted with the Economic Commission for Europe, the Council of Europe, and the World Meteorological Organization. Similarly, water pollution representatives served on committees of the Organization for Economic Cooperation and Development, Economic Commission for Europe, and International Conference on Water Pollution Research. There is a close cooperation with Canada and Mexico on water supply and pollution control problems of mutual interest. In cooperation with the Atomic Energy Commission, the radiological health program provides technical advice to the U.S. Scientific Committee on the Effects of Atomic Radiation, the International Commission on Radiation Protection, the International Atomic Energy Agency, the Food and Agriculture Organization, and similar organizations. The Radiation Surveillance Center cooperates with several foreign countries in the exchange of radiation data. The occupational health program also has an informal technical exchange program with Great Britain's National Coal Board on the health effects of coal dust and similar hazards.

Environmental engineers have visited several countries to provide consultation on sanitation problems such as solid wastes collection and disposal and to discuss the health effects of pesticide use. In addition, technical assistance is offered on sanitation to the operators of foreign-flag ships and planes which travel to the United States. A shellfish specialist went to Japan to help with shellfish sanitation problems and to assist in the negotiations for a shellfish agreement between Japan and the United States. A sanitary engineer was detailed to the World Boy Scout Jamboree in Greece.

Scientists and engineers at the Arctic Health Research Center correspond with their counterparts in over 40 countries. The library at the Center exchanges materials with 74 institutions in 21 countries. Staff members have attended international meetings such as the All Union Society of Helminthologists Scientific Conference in Moscow and the Blackfly Conference in Gwelph, Ontario. A Center biologist was assigned to a project of an international nature at McMurdo Sound, Antarctica, under the auspices of the National Museum of History. There is close cooperation with health authorities in Canada's Yukon and northwest territories, and consultation with Japanese, Scandinavian, and Russian scientists, among others, on health problems in arctic areas.

Several of the environmental health programs provide research grants to foreign scientists and institutions. In addition, in fiscal year 1963, 51 foreign health workers attended various environmental health training courses at the Taft Sanitary Engineering Center in Cincinnati.

NATIONAL LIBRARY OF MEDICINE

With the aim of improving the international exchange of biomedical information, the National Library of Medicine directs a number of activities speeding the flow of communication on the health sciences between the United States and nearly all foreign nations.

Under its translation program, the Library finances the translation and distribution in this country of important foreign biomedical publications. Journals, monographs, directories, and critical reviews concerning the biomedical literature of a number of foreign countries are involved, including Communist nations. Abstracting activities involve nearly all foreign areas active in biomedical research.

As the world's largest biomedical library, the Library has close and continuing involvement with foreign medical and research activities through the literature it acquires for its collection and through the various services it provides to libraries in the United States and abroad. For example, during fiscal year 1963, the Library added 83,900 pieces of medical literature to its collection and of this amount more than 65,000 pieces came from foreign countries. Three-fourths of the approximately 14,000 journals regularly received by the Library come from foreign countries.

During fiscal year 1963, the Library photoduplicated a total of 264,080 pages of journal articles in response to requests from 60 foreign countries; this is approximately 10 percent of the Library's annual photoduplication activity.

The Library publishes the Bibliography of Medical Translations, which serves as a national guide to the availability of translated foreign biomedical documents. Index Medicus, published monthly, is an index of the world's literature in medicine and biology. Between 50 and 60 percent of its contents relate to foreign research. Over 2,500 copies are sent to oversea institutions, where they constitute a principal source of information concerning world medical publications. For many years, the Library has carried on an international publications exchange program under which the Library offers its exchange partners the major serial titles as well as the monographic publications of the Public Health Service, including Index Medicus. The Library has over 1,100 foreign exchange partners from which it receives over 2,000 regularly issued foreign periodicals and monographs.

NATIONAL CENTER FOR HEALTH STATISTICS

Through the National Center for Health Statistics, the United States has a key role in the decennial revision of the World Health Organization-sponsored international disease classification. This classification is used throughout the world for compilation and intercomparisons of statistics on death and disease. Work with international disease classification has been a continuing activity over a span of 70 years and has reached critical importance in the past decade through the emphasis on health research utilizing statistical data.

A program of collaborative international studies on such subjects as infant mortality and general mortality trends has been sponsored and supported by the United States with participation by the United Kingdom, Netherlands, Sweden, Norway, and Denmark. These studies are part of the study of mortality trends in the United States which have undergone marked changes in recent decades. Through comparison of experience in other countries where similar occurrences have been observed, the reasons why death rates have leveled off in the United States are being studied.

Through the Public Law 480 program, statistical studies on improving the measurement of birth and death rates are underway or being negotiated in Pakistan, Egypt, and India. Studies in other areas of health statistics methods are being developed, notably in Yugoslavia.

PUBLIC LAW 480 PROJECTS

In carrying out section 104(k) of the Agricultural Trade Development and Assistance Act of 1954, as amended (Public Law 83–480), the Public Health Service utilizes special foreign currency appropriations to collaborate in research activities with scientists in governmental laboratories, universities, medical institutions, and health agencies in nine foreign countries. This program takes advantage of unusual and unique resources and opportunities overseas, and provides for the utilization of the talents and skills of qualified foreign scientists. All bureaus of the Public Health Service are either carrying on or planning activities under this program. Currently, there are 51 projects in operation and 29 projects in various stages of planning and negotiation which usually require at least 1 year to initiate and another to develop operating procedures before beginning to obtain results.

Despite the limited number of countries in which Public Law 480 excess currencies are available, collaborative research interest of Public Health Service scientists and foreign investigators continues to expand in the number of projects and their diversity. Wider designation of excess special currency funds in foreign countries for utilization for research purposes would permit the Public Health Service and the U.S. collaborating universities and research institutions to take fuller advantage of unusual research opportunities in a number of other countries.

EXCHANGE OF VISITORS AND SCHOLARS

During the past 12 months, 1,181 foreign scientists and health administrators visited the facilities of the Public Health Service in the Washington area for observation and consultation, and 1,086 Public Health Service scientists were sent to foreign countries for consultation and conferences. These consultations covered the full scope of the health sciences—from air pollution, shellfish sanitation, to arbor virus research and cancer. In addition, 592 foreign health workers from 87 countries were provided program guidance and backstopping for professional study at American universities, hospitals, and other health institutions. Research training and experience were exchanged with 190 foreign scientists working in the laboratories of the National Institutes of Health and 92 working in universities and other health research institutions in the United States; and 335 American scientists received similar experience and training in foreign laboratories.

MEDICAL RESEARCH AND TRAINING

To supplement knowledge being obtained from American laboratories, 1,005 research grants totaling $15.6 million were awarded by the Public Health Service to international organizations, and to institutions and investigators in foreign countries. It should be noted here that the international medical research program is further expanded through grants to U.S. institutions in behalf of highly qualified scientists who supervise or conduct research training. Foreign scientists may participate in such training under special conditions. During fiscal year 1963, approximately 10 percent of training stipends were paid to foreign nationals. This represents about 1,000 people who bring a new dimension to the research they undertake during their stay in this country.

Scientific representation abroad was established in Europe in December 1962, in Latin America in July 1962, and in the Far East and south Asia in December 1962, in order to increase the capacity to evaluate research opportunities and specific proposals, to extend the use of Public Law 480 derived local currency for support of research abroad, to encourage and negotiate for greater local support of research of interest, and to study the effect of U.S. activities on the development of medical assistance in these areas. A continuing effort is being made to assure increasing local financial participation in medical research projects, particularly in countries of high economic capability. Because these countries are most productive in fields of medical research of greatest interest and concern to the United States, a close interrelated research effort must be maintained. Representation abroad not only assures the effectiveness of foreign investment but also serves as a focus to stimulate international medical science communications.

Coordination in Washington is accomplished through close working relationships with the President's science advisers, through membership on the International Committee of Federal Council on Science and Technology. A scientist has been assigned to the Department of State to further coordination of activities of the two agencies, and another has been assigned to the diplomatic mission in Geneva to effect technical liaison between the Service and the World Health Organization.

The Public Health Service administers the SEATO Cholera Research Laboratory in Dacca, Pakistan. This is, in fact, an autonomous international project operating under an agreement between the Governments of Pakistan and the United States with provision for adherence by other nations. The Laboratory, which is concerned with all phases of cholera research, is the only one of its kind in the world, and serves as a center for research training in Pakistan. It is supported in part by Pakistan, by the Agency for International Development, Public Health Service and by contributions from Pakistan, Australia, and the United Kingdom.

At the request of the Government of Ghana, staff of the National Institutes of Health are presently working with African scientists in Accra in an effort to help the Ghanaians develop a program of medical research on the major health problems of Ghana which are also of concern to the people of the United States. In addition to setting up a clinical research unit for precise observation of patients under a high degree of control, the group is studying the histochemistry of tropical diseases, the biochemistry of parasites and parasite vectors; and a field unit is assessing vaccines and chemotherapy.

The Middle America Research Unit, a field station of the Public Health Service located in the Canal Zone, studies viral and fungal diseases of the tropics. It maintains active professional contacts with cooperating organizations concerned with health and medical research in the countries of Central, nearby South America, and the Caribbean, and works closely with the Gorgas Memorial Laboratory, the Army Medical Service, and the Pan American Health Organization.

A group of scientists is working at the Institute of Medical Research in Kuala Lumpur, Malaya, studying in its natural environment the malaria which affects monkeys, its vectors, and its potential as a reservoir for the disease in humans.

Another program which has wide application to international health is that of the Interdepartmental Committee on Nutrition for National Defense. The main function in this program is the systematic accumulation of basic data on the nutritional status of populations in the developing countries by multidisciplinary nutritional appraisals (health, food, production, technology, utilization, and agriculture). The objective of the nutrition service is to define the major food and nutrition problems, to train counterpart scientists and develop practical measures to maximum utilization of local resources. The secretariat of the Committee is located in the Service, and membership of the Committee includes the Departments of State, Defense, Agriculture, Health, Education, and Welfare, Interior, Agency for International Development, and Atomic Energy Commission. Liaison is also maintained with the World Health Organization, Food and Agriculture Organization, United Nations Children's Fund, and Pan American Health Organization.

Assessments have been made in 24 developing countries since the organization of the Committee in 1955. Continuing followup consultation and collaboration have been maintained with the countries through their institutes of nutrition and other interested agencies. Major emphasis on followup activities deals with the problems of malnutrition in infants, preschool and schoolchildren, pregnant women, and labor offices. Research problems that have been uncovered are now being studied by institutes of nutrition of the countries, through projects supported by a variety of interested public and private agencies. A major part of this program is made possible by the excellent collaboration of the universities and colleges throughout the United States and the participating Government agencies. To date, approximately 400 scientists have been provided from 36 universities in addition to those furnished by Government and private institutions.

QUARANTINE

Guarding the Nation against the introduction of disease from abroad is one of the oldest international activities of the Public Health Service. At present, quarantine officers perform inspections of international travelers, conveyances, and certain imports at U.S. ports of entry and, when necessary, apply health controls to international sea, air, and land traffic to prevent the importation or spread of disease. The Service also conducts medical examinations of visa applicants at U.S. consulates abroad and medical inspections of aliens at ports of entry to detect excludable diseases or conditions specified in immigration law. In protecting the people against the introduction of disease from without, the Service enforces the International Sanitary Regulations issued by the World Health Organization, one of whose responsibilities is to collect and disseminate information on the quarantinable diseases and to marshal worldwide support for their isolation, control and eradication. Technical assistance is furnished to other governments in the development of quarantine programs and the training of quarantine personnel. Members of the staff serve on the Committee on International Quarantine of the World Health Organization and on the WHO Expert Advisory Panel on International Quarantine. In addition, headquarters and field personnel take part in international conferences dealing with the control of the quarantinable diseases and the facilitation of international travel and commerce.

SUMMARY

The international programs of the Public Health Service are growing in number and in diversity as more recognition is given to the interrelationship of our own problems, their solutions and those of other countries, and to the importance of health as a factor in world peace.

JUSTIFICATION MATERIAL

(Following is the justification material submitted to the committee:)

Salaries and Expenses, Office of the Surgeon General

APPROPRIATION ESTIMATE

"SALARIES AND EXPENSES, OFFICE OF THE SURGEON GENERAL

"For the divisions and offices of the Office of the Surgeon General and for miscellaneous expenses of the Public Health Service not appropriated for elsewhere, including preparing information, articles, and publications related to public health; and conducting studies and demonstrations in public health methods, [$6,091,000] *$6,033,000*."

Amounts available for obligation

	1964	1965
Appropriation	$6,091,000	$6,033,000
Transfer from other accounts	104,000	
Comparative transfers to other accounts	−300,000	
Proposed transfer from "National Heart Institute" due to Uniformed Services Pay Act of 1963	49,000	
Total	5,944,000	6,033,000

Obligations by activity

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
International health activities	24	$232,000	24	$239,000		+$7,000
Management and central services:						
Immediate Office of the Surgeon General	33	430,600	33	436,400		+5,800
Policy and appraisal	71	842,300	76	909,700	+5	+67,400
Division of Administrative Services	97	940,500	97	918,300		−22,200
Division of Finance	91	874,600	75	853,900	−16	−20,700
Office of Personnel	173	1,651,600	173	1,687,800		+36,200
Office of Information and Publications	53	507,700	53	515,700		+8,000
Division of Public Health methods	49	464,700	49	472,200		+7,500
Total management and central services	567	5,712,000	556	5,794,000	−11	+82,000
Total obligations	591	5,944,000	580	6,033,000	−11	+89,000

Obligations by object

	1964 estimate	1965 estimate	Increase (+) or decrease (−)
Total number of permanent positions	591	580	−11
Full-time equivalent of all other positions	4	4	
Average number of all employees	542	542	
Employees in permanent positions, end of year	536	545	+9
11 Personnel compensation:			
Permanent positions	$4,548,100	$4,705,300	+$157,200
Positions other than permanent	29,200	29,200	0
Other personnel compensation	35.100	21,200	−13,900
Total personnel compensation	4,612,400	4,755,700	+143,300
12 Personnel benefits	392,800	395,500	+2,700
21 Travel and transportation of persons	187,500	188,500	+1,000
22 Transportation of things	21,300	21,300	0
23 Rent, communications, and utilities	156,500	155,900	−600
24 Printing and reproduction	167,600	167,600	0
25 Other services	46,700	46,700	0
Services of other agencies	243,900	190,300	−53,600
26 Supplies and materials	63,300	63,500	+200
31 Equipment	52,000	48,000	−4,000
Total obligations by object	5,944,000	6,033,000	+89,000

Summary of changes

1964 enacted appropriation		$6,091,000
Proposed transfer from "National Heart Institute"		49,000
Transfer from other accounts		104,000
Comparative transfers to other accounts		−300,000
Total estimated obligations		5,944,000
1965 estimated obligations		6,033,000
Total change		+89,000
Increases:		
Mandatory:		
1. Annualization of Federal Employees Pay Act costs:		
International health activities	$3,000	
Management and central services	89,000	
		92,000
2. Annualization of Uniformed Services Pay Act costs:		
International health	4,000	
Management and central services	12,000	
		16,000
3. Annualization of new positions authorized in 1964: Management and central services		32,000
Subtotal, mandatory increases		140,000
Program increases:		
Management and central services:		
Division of internal audit (five positions)		46,300
Grants policy staff		10,000
Subtotal, program increases		56,300
Gross increases		196,300
Decreases:		
Management and central services:		
Transfer of payroll function to DHEW		−35,300
Transfer of fiscal accounting services for medical supply depot at Perry Point to service and supply fund		−12,000
One less day of pay above 52-week base (262 days in 1964; 261 days in 1965)		−15,000
Nonrecurring costs:		
Equipment purchases		−4,000
Rental of office space		−4,000
Employee compensation benefits		−37,000
Subtotal decreases		−107,300
Total net change requested		+89,000

EXPLANATION OF CHANGES

An increase of five positions and $46,300 is requested to augment the Division of Internal Audit, established in the Office of the Surgeon General in August 1963. This Division insures consistent application of basic management policies on the part of the great number of bureau, division, and field station officials with delegated authority and through periodic reviews ascertains that the Service's activities are being administered in as effective and economical a manner as possible. The requested positions are for the purpose of:

(*a*) Ascertaining compliance with laws, regulations, policies, plans, and procedures, including a review of the adequacy of plans, instructions, and controls to implement the Surgeon General's directives and departmental regulations;

(*b*) Examining management operations under established policies, plans, and procedures (1) to determine that costly or unnecessary practices such as duplication of effort, overstaffing, cumbersome organizational patterns, inefficient procurement methods, and the like, are not in use and (2) to determine the comparative effectiveness of new methods established to accomplish management objectives;

(*c*) Ascertaining the adequacy of security of assets held by the PHS; and

(*d*) Reviewing the quality of work performed by management staff.

A lapse reduction of $9,000 and an increase of $1,000 in related benefits is requested for the grants policy staff.

Explanation of transfers

	1964 estimate	1965 estimate	Purpose
Transferred from—			
"Chronic diseases and health of the aged"	$5,000	0	Organizational transfer of the functions of the Grants Policy Staff to the Office of the Surgeon General. This transfer made under authority of sec. 508 of the Public Health Service Act provides for salary and related costs of 9 positions.
"Communicable disease activities"	4,000	0	
"Community health practice and research"	3,000	0	
"Nursing services and resources"	1,000	0	
"Hospital construction activities"	1,000	0	
"General research and services, National Institutes of Health"	17,000	0	
"National Cancer Institute"	15,000	0	
"Mental health activities"	15,000	0	
"National Heart Institute"	15,000	0	
"Neurology and blindness activities"	28,000	0	
Total	104,000	0	
Comparative transfer to—			
"Accident prevention"	2,000	0	This transfer to various accounts provides for the funding of accounting point services provided at headquarters; reimbursements will be made to the "Service and supply fund." The type of services involved is similar to that performed by other accounting points in the field and financed from program appropriations.
"Chronic diseases and health of the aged"	49,000	0	
"Communicable disease activities"	1,000	0	
"Community health practice and research"	18,000	0	
"Control of tuberculosis"	1,000	0	
"Dental services and resources"	12,000	0	
"Nursing services and resources"	6,000	0	
"Hospital construction activities"	12,000	0	
"Environmental health sciences"	2,000	0	
"Air pollution"	11,000	0	
"Environmental engineering and sanitation"	18,000	0	
"Occupational health"	7,000	0	
"Radiological health"	49,000	0	
"Water supply and water pollution control"	23,000	0	
"Hospitals and medical care"	34,000	0	
"Foreign quarantine activities"	7,000	0	
"Indian health activities"	14,000	0	
"National health statistics"	14,000	0	
"National Library of Medicine"	10,000	0	
"Emergency health activities"	10,000	0	
Total	300,000	0	
Proposed transfer from "National Heart Institute"	49,000	0	This proposed transfer is to cover the increased cost resulting from the Uniformed Services Pay Act of 1963.

Salaries and expenses, Office of the Surgeon General

	Budget estimate to Congress	House allowance	Senate allowance	Appropriation
1955	$2,780,000	$2,780,000	$2,780,000	$2,780,000
1956	2,949,000	[1] 2,916,000	2,916,000	2,916,000
1957	4,010,000	3,892,000	3,892,000	3,892,000
1958	5,150,000	5,100,000	5,100,000	5,100,000
1959	5,765,000	5,666,000	5,700,000	5,666,000
1960	5,816,000	5,816,000	5,816,000	5,816,000
1961	7,180,000	7,126,000	7,226,000	7,226,000
1962	5,275,000	5,275,000	5,375,000	5,375,000
1963	5,850,000	5,850,000	5,850,000	5,850,000
1964	6,091,000	6,091,000	6,091,000	6,091,000
1965	6,033,000			

[1] Supplemental of $15,000 not considered by House.

INTRODUCTION

This appropriation provides funds necessary to the discharge of certain responsibilities within the Office of the Surgeon General. This Office, established with bureau status, provides overall administration, management and direction of all programs and projects of the Public Health Service. It is organized for three principal purposes: (1) to interpret for the entire Service policies which emanate not only from the Surgeon General but also from the Department of Health, Education, and Welfare, the General Accounting Office, the Bureau of the Budget, the General Services Administration, the Civil Service Commission, and other Government agencies having policymaking powers; (2) to furnish staff services to the Surgeon General as bases for his decisions; and (3) to furnish services to the headquarters and field offices. The budget is presented under two activities, "International health activities," and "Management and central services."

International health activities

	1964 estimate		1965 estimate		Increase or decrease	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	24	$215,000	24	$222,000	0	+$7,000
Other expenses		17,000		17,000		
Total, international health activities		232,000		239,000		+7,000

The Office of International Health is the principal adviser to the Surgeon General on international health matters, including policy guidance and advice on program development, preparation of official positions on international health questions, and provision of staff support in relation to U.S. participation in international health organizations. It is responsible for external relations of the Service with other Federal agencies, private groups, and other governments in international health matters and maintains continuing relationship with international health organizations. The increasing responsibility of the United States in the international health field by virtue of its membership in international organizations has resulted in a corresponding increase in the Service's international activities.

The United States is a member of two great international organizations devoted to the improvement of the health of mankind, the World Health Organization serving the world and the Pan American Health Organization serving the Americas.

Although the United States is a large contributor of financial support to these organizations, it is essential that we contribute from our technical and organizational knowledge to assure the achievement of the common objectives of these organizations and our own.

The requested increase is due to annualization of the Federal Employees Pay Act of 1962 and the Uniformed Services Pay Act of 1963.

Management and central services

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits:						
Immediate Office of the Surgeon General	33	$367,900	33	$373,700	0	+$5,800
Policy and appraisal	71	723,200	76	788,000	+5	+64,800
Division of Administrative Services	97	749,800	97	764,600	0	+14,800
Division of Finance	91	724,000	75	725,900	−16	+1,900
Office of Personnel	173	1,408,100	173	1,444,300	0	+36,200
Office of Information and Publications	53	410,100	53	418,100	0	+8,000
Division of Public Health Methods	49	407,100	49	414,600	0	+7,500
Total, personnel compensation and benefits	567	4,790,200	556	4,929,200	−11	+139,000
Other expenses		921,800		864,800		−57,000
Total, management and central services		5,712,000		5,794,000		+82,000

Immediate Office of the Surgeon General

	1964 estimate		1965 estimate		Increase or decrease	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	33	$367,900	33	$373,700	0	+$5,800
Other expenses		62,700		62,700		0
Total		430,600		436,400		+5,800

The Surgeon General and his immediate staff give direction, leadership and coordination to the activities of the Public Health Service and are responsible for the effective guidance and management of the Service.

Thirty-four positions formerly shown in this subactivity which represented staff advisers have been transferred to the subactivity in which we have consolidated related activities of "Policy and appraisal."

The requested increase is to cover the costs of the Federal Employees Pay Act of 1962 ($4,700) and the Uniformed Services Pay Act of 1963 ($1,900) offset by a reduction of $800 for 1 less day of pay above 52-week base.

Policy and appraisal

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	71	$723,200	76	$788,000	+5	+$64,800
Other expenses		119,100		121,700		+2,600
Total		842,300		909,700		+67,400

This is a new subactivity and encompasses several related staff functions which in previous estimates were included in the subactivity "Immediate Office of the Surgeon General," together with those items formerly carried under heading of "Other central services and contingent items." In addition, this activity includes a central staff for grants policy coordination, established at the Surgeon General level, by transfer from the National Institutes of Health and the Bureau of State Services, Community health (nine positions and related funds).

Policy and appraisal is composed of the following staff units:

The chief professional officers of the Service which are those directly responsible to the Surgeon General for the discharge of duties related principally to their professions (nursing, engineering, and dental) and matters of interest to members of their professions within and outside Government.

Management Policy Staff provides management analyses needed to improve the Service's organization and management policies: (1) Conducts organizational and management studies and surveys, (2) prepares or reviews proposals and issuances affecting organizational structure or function that require the approval of the Surgeon General or higher authority, (3) initiates or reviews proposals for establishing or modifying PHS management policies or regulations.

Office of Director of Investigations provides the Surgeon General with investigative and other related staff services to promote equitable treatment of Service employees.

Science Information plans and oversees the development of systems, standards, policies, and procedures for the scientific and technical information programs of the Service. Provides stimulus, leadership, advice, and assistance to the bureaus and divisions in their efforts to maintain effective scientific and technical information programs.

Inventions and Patents Staff provides staff services to insure that inventions by Service employees, grantees, and contractors are reported and processed promptly in accord with established procedures and that such inventions are equitably administered in the public interest in accordance with governing regulations and policies.

Grants Policy Office provides leadership, advice, and assistance in the development of policies, standards, and procedures appropriate to each of the five major kinds of grant programs carried out by the Service.

A proposal for the establishment of a Division of Internal Audit in the Office of the Surgeon General was approved by the Secretary on August 30, 1963. The Division is currently staffed by positions transferred from the former Internal Audit Branch, Division of Finance, plus selected positions in the Division of Administrative Services and Management Policy and Appraisal Staff.

The Surgeon General must have means for insuring consistent application of basic management policies on the part of the great number of bureau, division, and field station officials with delegated authority. Among other things this requires a comprehensive, continual, and systematic review of management practices under a pattern of complex laws, regulations, policy directives, and prescribed procedures. Periodic reviews are necessary to insure that the Service's activities are being administered in as effective and economical a manner as possible.

In addition to the 17 professional and 4 clerical positions that have been transferred to the Division of Internal Audit, 3 additional analyst positions, 2 at the GS–14 level and 1 at the GS–13 level, are requested for examination of management operations to determine that established policies, plans, and procedures are followed and that costly or unnecessary practices such as duplication of effort, cumbersome organizational patterns, inefficient procurement, overstaffing, etc., are not in use. In addition, these analysts will ascertain Service compliance with laws, regulations, policies, plans, and procedures; review adequacy of plans, instructions, and controls to implement the Surgeon General's directives and departmental regulations; and ascertain the adequacy of security of assets held by the Public Health Service. Two positions are requested for secretarial and clerical support for these activities.

(The requested increase is summarized as follows:)

Title	Grade	Number	Per annum salary
Management analysis officer	GS-14	2	$27,248
Do	GS-13	1	11,731
Secretary	GS-5	2	9,402
Total		5	48,381
Deduct lapse			9,381
Personnel compensation (new positions)			39,000
Personnel benefits (new positions)			2,700
Total personnel compensation and benefits (new positions)			41,700
Annualization of pay act costs			12,700
Annualization of positions new in 1964			2,000
Reduction in lapses (Grants Policy Staff)			9,000
Increase in related benefits (Grants Policy Staff)			1,000
1 less day of pay above 52-week base			−1,600
Total increase, personnel compensation and benefits			64,800
Other increases related to new positions:			
Travel			1,000
Rental of office space			3,400
Office supplies			200
Nonrecurring equipment purchases in 1964			−2,000
Net increase requested			67,400

Division of Administrative Services

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	97	$749,800	97	$764,600	0	+14,800
Other expenses		190,700		153,700		−37,000
Total		940,500		918,300		−22,200

The Division of Administrative Services is responsible for planning and coordinating the provision and management of general services in the areas of procurement and property management, printing management and distribution services, forms and records management, administrative issuances, travel and office services; advising on all phases of general services management, and representing the Surgeon General within and outside the Service on these matters; providing leadership, guidance, and assistance to bureaus, divisions, and field stations on general services programs, policies and practices, including recommendations on staffing of general services activities; studying, developing, and recommending new general services programs for the Service; participating in the development of departmentwide general services programs and policies.

The Division activities have been realigned so as to provide for minimal coverage in each of the new functional areas which were delegated to the Division in the approved reorganization. In addition to the basic programs continued during 1964, the Division (1) activated the Contracts Office and initiated a program to develop servicewide policies, procedures, and criteria for negotiated contracts; (2) initiated a program to provide leadership and guidance in establishing a servicewide program for the management of automatic data-processing systems; (3) initiated the review, revision, and modernization of regulations and delegations of authorities in the supply management area; and (4) initiated a contract compliance review program in accordance with the President's directives on equal employment opportunity.

Within the resources available for 1965, the Division will continue the provision and management of the basic and necessary general services outlined above; and will intensify activities in the area of research and development contracting.

The estimate provides for annualization of the costs of the Federal Employees Pay Act of 1962 ($17,800) offset by nonrecurring items for Bureau of Employees Compensation benefits ($37,000) and 1 less day of pay above 52-week base ($3,000).

Division of Finance

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	91	$724,000	75	$725,900	−16	+$1,900
Other expenses		150,600		128,000		−22,600
Total		874,600		853,900		−20,700

Public Health Service programs have expanded rapidly in recent years to meet broad national health needs. This growth has resulted in large workload increases and has added substantially to the complexity of accounting services needed for new and more comprehensive programs. The increased use of contracts to procure research and development services has contributed greatly to the need for more highly skilled professional accountants. Since 1959 the volume of such contracts for which the Division has responsibility has increased ninefold, from 50 to 450. The Division has attempted to meet these expanded needs through a number of actions. Automation of financial reporting has been inaugurated, with considerable attention being directed toward improved financial methods and simplified procedures. Decentralization of selected financial authorities has been accomplished. However, the workload encountered during 1963 overwhelmed the capacity of the Division to provide basic accounting and reporting services, and at the same time meet mounting needs for staff financial advisory services.

Two significant steps were taken in 1964 to relieve this situation. At the beginning of the fiscal year, 50 employees performing headquarters accounting services comparable to field accounting activities were organized into a new section to provide these services on a fee-for-service basis under the service and supply fund. In 1964, reimbursement is being made from the "Salaries and expenses" appropriation for Service customers occupying space in the District of Columbia and selected suburban facilities. In 1965 and thereafter, the cost will be borne by programs which receive service. This arrangement provides a mechanism under which accounting service can be provided for expanding programs without curtailing more essential management accounting functions. At the same time, it will permit better utilization of scarce supervisory skills, and result in more economical operation than would be possible if expansion were handled by establishing an additional number of small accounting points. The service thus available includes maintenance of general ledger and allowance accounts for headquarters funds; preaudit of travel and transportation vouchers, and vouchers for purchases and miscellaneous services for headquarters accounts; preaudit of doubtful claims submitted by field stations; and the provision of cashier services for payment of stipends, travel advances and authorized small cash purchases.

In accordance with a previously planned Department-wide schedule for automation of payrolls, action was taken early this fiscal year to consolidate payroll activities of this Division with the Central Payroll Division in the Office of the Secretary. Savings resulting from automation of the payroll function will permit greater effort in dealing with increased workload in research and development contracts and in meeting urgent needs for development and establishment of approved accounting systems.

The functions of the Division financed by this appropriation ("Salaries and expenses, Office of the Surgeon General") include the development of fiscal procedures and establishment of systems of accounts, issuance of manuals and related instructions, and coordination of total Public Health Service budget operations. The Division controls allotment of all Service funds; manages financial aspects of revolving funds; participates in the negotiation of overhead rates on cost-type research and development contracts, coordinates contract audit, develops cost principles and promulgates Service financial policies and practices for R. & D. contracts; prepares financial reports for headquarters accounts; receives, reviews, and verifies reports from the field, and publishes consolidated financial reports showing the status of all Service funds, and special reports as required; prepares monthly statements of transactions for the Treasury Central

Accounts Office: reconciles Service appropriation and fund accounts; and collects and deposits amounts due the Service on headquarters accounts.

Program reduction in 1965 involves 16 positions and $47,300. This is occasioned by the transfer of the Service payroll function, resulting in a reduction of 14 positions, and transfer to the service and supply fund of 2 positions which are involved in accounting and reporting medical supply and inventory costs for the Medical Supply Depot at Perry Point, Md. Other nonrecurring costs from 1964 total $9,600, and include $3,600 pay for 1 less day above the 52-week base, $4,000 for rental of office space, and $2,000 for equipment purchases in 1964.

Mandatory increases totaling $36,200 in 1965 arise from annualization of salary increases under the Federal Employees Pay Act of 1962 ($20,200), and annualization of positions new in 1964 ($16,000).

Office of Personnel

	1964 estimate		1965 estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	173	$1,408,100	173	$1,444,300	0	+$36,200
Other expenses		243,500		243,500		0
Total		1,651,600		1,687,800		+36,200

The Office of Personnel is charged with responsibility for formulating, directing, and coordinating policies and programs for personnel management and administration for the Service.

The Office also serves as personnel adviser to the Surgeon General and represents him on personnel matters within and outside the Service.

Generally, the Office responsibilities include developing—and implementing—policies and programs to fulfill all personnel needs of the Service; formulating methods for meeting manpower requirements, and for best utilizing manpower resources; planning and coordinating a comprehensive program of personnel standards for both civil service and commissioned corps; carrying forward an effective, comprehensive program for recruitment, orientation, retention, and best utilization of personnel; providing necessary staff services relating to personnel matters on a Service-wide basis; and generally directing and coordinating all top-level personnel management policies for the Service.

In April 1963 the Office of Personnel was reorganized in accordance with recommendations of the Advisory Committee on PHS Personnel Systems. The reorganization plans provided for a three-phase expansion of staff to fulfill broadened and more diversified responsibilities of the Office.

In 1964, the Office carried out the first phase of the plans. Generally, this included (*a*) strengthening of staff planning and policy functions; (*b*) progress toward adoption of Service-wide policies and operational procedures that serve across-the-board for civil service and commissioned corps; (*c*) initiation of a billet analysis program for all commissioned corps positions which will help to improve placement of personnel; (*d*) establishment of a career development program, including special career development committees in the fields of mental health, engineering, nursing, and dentistry; and general coordination of interbureau efforts toward the career development program; and (*e*) a limited amount of supervisory and management training.

During 1965 the Office will operate—for the most part—at a level comparable to 1964. Among the programs expected to be carried forward are the following: Refinement of the system of billet analysis of the commissioned corps; limited progress on broad and varied kinds of personnel services relating to recruitment, orientation, training, retention, and career development; development and issuance of standards and procedures to guide the bureaus in the conduct of the day-to-day operations; a minimum exploration in such programs as evaluation of personnel management in the Service, manpower planning, establishment of qualification, performance evaluation, and other standards for both civil service and commissioned corps personnel; and generally directing and coordinating personnel management for the Service.

The additional amount of $36,200 is requested: (1) Increase of $14,000 for the annualization of positions new in 1964; (2) increase of $26,200 for the pay act costs; and (3) decrease of $4,000 for 1 less day of pay above 52-week base.

Office of Information and Publications

	1964 estimate		1965 estimate		Increase (+) or decrease (—)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	53	$410,100	53	$418,100	0	+$8,000
Other expenses		97,600		97,600		0
Total		507,700		515,700		+8,000

This Office is responsible for all overall direction, policy guidance, and coordination of the informational and publications program of the Service which is devoted principally to those activities required by law, including the official Public Health Journal, Public Health Reports and the annual report of the Public Health Service. Each year it responds to thousands of mail, telephone, and personal inquiries from physicians, State health departments, voluntary groups, educational institutions, and the public in search of health information. Each year it handles hundreds of articles, speeches, press releases, films, and other materials on behalf of the Surgeon General and other senior officials of the Service.

The Office of Information and Publications is a key factor in the communications activities of the Public Health Service and is a major resource for strengthening Service communications through its own efforts and in coordinating the total information and publications product of the Service.

Public Health Reports is one of the principal avenues for communicating scientific and technical information to the public health and allied professions. Its 13,000 member audience relies on PHR for authoritative research information on developments in public health. The Public Health Monographs offer an outlet for the research and technical information developed by Service personnel and public health workers throughout the Nation.

The increasing of interest in communications has already produced a substantial expansion in the work of the Office (about 30 percent increase over calendar year 1962). In addition, science writers for technical and popular journals, for commercial education television and radio; professional organizations such as the National Association of Science Writers and the Council for the Advancement of Science Writing, the American Public Health Association, voluntary agencies for the National Public Relations Council for Health and Welfare Services turn to the Office of Information and Publications for professional assistance, written materials, and guidance. The volume of inquiries in calendar year 1963 has increased above 24 percent over the average annual volume in the previous 3 years.

The increase requested is for annualization of increased pay costs due to the Federal Employees Pay Act of 1962 ($9,000) offset by a nonrecurring item of 1 less day of pay above 52-week base ($1,000).

Division of Public Health Methods

	1964 estimate		1965 estimate		Increase (+) or decrease (—)	
	Positions	Amount	Positions	Amount	Positions	Amount
Personnel compensation and benefits	49	$407,100	49	$414,600	0	+$7,500
Other expenses		57,600		57,600		0
Total		464,700		472,200		+7,500

The Division of Public Health Methods is responsible for conducting studies designed to identify new and emerging areas of national health activities, problems, and resources, and to define them in relation to the policies and programs of the Service. It assesses the long-range effects of economic, social, scientific, health manpower, health service, legislative, and educational development on Service operations. The Division performs staff services for the Surgeon General within the areas of its competencies.

In its day-to-day operations the Division performs the following functions:

Conducts special studies and evaluates national health needs, programs, resources, and problems.

Prepares technical and nontechnical reports on public health programs, and provides advisory and consultative service to other Government and non-Government agencies.

Provides staff services for special projects in which the Public Health Service cooperates with public and private agencies.

Furnishes staff services to and for the Surgeon General as directed by him, such as collecting and preparing information for legislative committees, State and other Federal agencies, or professional and voluntary health agencies; coordinating such work when it includes the areas of several units within the Service; and represents the Surgeon General in working with other organizations.

The requested increase provides for the annualization of increased pay costs due to the Federal Employees Pay Act of 1962 and the Uniformed Services Pay Act of 1963 ($8,500) offset by a nonrecurring item of 1 less day of pay above 52-week base ($1,000).

New positions requested, fiscal year 1965

Policy and appraisal	Grade	Annual salary
Management analysis officer (2)	GS-14	$27,248
Management analysis officer	GS-13	11,731
Secretary (2)	GS-5	9,402
Total new positions (5), all activities		48,381

REDUCTIONS IN PUBLIC HEALTH SERVICE BUDGET

Mr. FOGARTY. Do you have at hand the figure that you requested of the Bureau of the Budget, and how much you have been allowed for the Public Health Service?

Mr. DORAN. It was $6,545,000.

Mr. FOGARTY. I mean for the entire Public Health Service.

I will supply it.

In 1964 you had $1,632,212,929; for 1965, the estimate to the Department was $1,737,295,000; and then the Department estimate to the Bureau of the Budget was $1,681,124,000 and you finally end up with $1,585,945,000, in the President's budget which we have before us now.

So you received some pretty severe cuts along the way—over $150 million less than you asked the Department for. Would you supply for the record in the form of a statement just how important this $151-plus million was, and how this could benefit the people if Congress appropriated this $151 million over the budget?

Dr. PRICE. Yes, sir, we will.

(The information requested follows:)

The following identifies by major area where the $151 million reduction was made:

	Estimate to Department	President's budget	Amount of reduction
Buildings and facilities	$31,824,000	$21,512,000	$10,312,000
Community health	275,731,000	246,203,000	29,528,000
Environmental health	215,682,000	191,410,000	24,272,000
Medical services	62,326,000	59,603,000	2,723,000
National Institutes of Health	1,132,185,000	1,050,367,000	81,818,000
Scientific activities overseas	2,500,000	1,000,000	1,500,000
National health statistics	6,390,000	6,184,000	206,000
National Library of Medicine	3,810,000	3,633,000	177,000
Salaries and expenses, Office of the Surgeon General	6,847,000	6,033,000	814,000
Total	1,737,295,000	1,585,945,000	151,350,000

The $151 million reduction shown on the table above includes $24,272,000 for programs in the field of environmental health, $29,528,000 for programs in the field of community health, $81,818,000 for programs of the National Institutes of Health, $2,723,000 for direct medical care of Federal beneficiaries, and $13,009,000 for other health programs of the Public Health Service. Some of the benefits which accrue to the American public as a result of these programs are discussed below:

ENVIRONMENTAL HEALTH

The environmental health programs of the Public Health Service are directed toward reducing or curbing the ever-increasing health hazards occurring from the pollution and contamination of the air, water, and other elements of our environment. Research grants are provided in order to fully utilize the resources of the scientific community in attacking the various environmental health problems. Training grants and fellowship programs are aimed at providing a sufficient number of well-trained environmental health specialists and technicians to carry out the wide range of environmental health programs of health agencies at the Federal, State, and local levels. State program development grants and demonstration grants are made to States to stimulate the development of their health efforts in the control and abatement of radiological and water pollution contamination. In addition, grants are made to State, municipal, and interstate agencies to stimulate and assist in the construction of sewage treatment works. Intramural research is carried out by the Public Health Service to provide the knowledge that we need for the protection of health in our environment. Research programs are aimed at determining the extent of the environmental problems involved, evaluating them to determine their cause, and finally developing the methods by which the adverse effects can be controlled or eliminated. Technical assistance and specialized training courses are provided to State and local health agencies so that they may develop competence in the methods of combating environmental health problems. Thus, the Public Health Service seeks to meet the challenges of our extremely complex environment by utilizing a comprehensive and integrated approach to understanding and eliminating or controlling environmental health hazards.

COMMUNITY HEALTH

Through the community health programs the Public Health Service contributes to the development of health manpower, hospital and medical facilities, and more efficient methods of rendering comprehensive health care. These contributions are made through: Active programs of technical assistance to States and local communities through demonstration projects, loan of personnel, consultation and publications; financial assistance through formula and project grant programs; training of State and community personnel through the Public Health Service-conducted specialized courses, traineeship and fellowship grants, and loans and research into better ways to apply medical knowledge. Some examples of community health program efforts are: Grants to study the causes of accidents; development of ways to apply measures for the prevention of chronic diseases such as heart disease and blindness; surveillance of communicable diseases through epidemiologic investigations; grants to State health departments and other agencies to stimulate new programs in health services such as home nursing programs; training grants to schools of nursing, and public health to increase the enrollment and augment educational programs.

BUREAU OF MEDICAL SERVICES

The Bureau of Medical Services programs are directed toward providing medical and hospital care to the beneficiaries designated by Congress and guarding the Nation against the introduction of disease from abroad.

The Bureau provides care for American seamen, coastguardsmen and their dependents, civilian employees of the Federal Government injured in performing their work, patients with leprosy, and narcotic drug addicts, as defined by Federal law, through a system of 15 hospitals and 141 outpatient facilities.

Every day over 100,000 persons are cleared through quarantine at the more than 300 points of entry under U.S. jurisdiction. Careful medical inspections are made of persons, animals, biological materials, and conveyances entering the United States to prevent the introduction and spread of disease. A program is also conducted which provides medical examinations of visa applicants abroad.

The Bureau of Medical Services also provides for the operation of health units at the request of other Federal agencies and furnishes medical personnel detailed to other Federal agencies on a reimbursable basis. Funds are also provided for a grant to Hawaii for the care and treatment of persons afflicted with leprosy.

NATIONAL INSTITUTES OF HEALTH

The Public Health Service, through the National Institutes of Health, seeks to improve the health of the people through vast and comprehensive programs of basic and clinical research in the medical, biological, and behavioral sciences.

The major portion of the NIH investment is in the form of research grants of which the following are examples:

Grants to individual investigators in medical schools, hospitals, and other nonprofit institutions for the pursuit of research in basic sciences and the categorical medical fields.

Awards to qualified institutions for development of categorical and general research centers for research in diseases of children and adults.

Support of specialized resources or facilities for study of biomedical engineering, biomedical communications, bioinstrumentation, and computers and data processing.

Establishment and operation of primate centers for research in cardiology and all biomedical disciplines.

Projects for assistance to State mental hospitals for improvement of patient care and community mental health programs.

Grants to public and nonprofit institutions for support of their general research and training programs.

Training grants and fellowships are awarded to institutions and individuals to assure a continuing supply of research manpower in the medical sciences.

Grants are also made to States and territories to strengthen State and local clinical and educational services in mental health.

Through the intramural research programs at the National Institutes of Health, investigations are conducted within the framework of the nine Institutes. These investigations are broadened through collaborative studies largely supported by contract with other Federal and non-Federal institutions.

Mr. FOGARTY. Mr. Lesinski.

Mr. LESINSKI. I have no questions.

Mr. FOGARTY. Is there anything else, Doctor, you want to say before you leave?

Dr. PRICE. I think not.

Mr. FOGARTY. Are there any other problems before you leave now, that are not covered, that you think should be covered?

Dr. PRICE. I think we have had an opportunity to discuss all of them, sir, very, very well.

Mr. FOGARTY. All right, thank you very much.

JUSTIFICATION MATERIAL FOR PHS REQUESTS FOR SUPPLEMENTAL APPROPRIATIONS

(The following justification material was submitted to the committee in connection with fiscal year 1964 supplemental requests:)

HEALTH PROFESSIONS EDUCATIONAL ASSISTANCE

Amounts available for obligation

	1964 presently available	1964 revised estimate	Increase (+) or decrease (−)
Appropriation or estimate	0	$30,390,000	$30,390,000

Obligations by activity

Description	1964 presently available		1964 revised estimate		Increase (+) or decrease (−)	
	Positions	Amount	Positions	Amount	Positions	Amount
Grants for construction of teaching facilities for medical, dental, and other health personnel		0		$25,000,000		+$25,000,000
Student loans		0		5,100,000		+5,100,000
Operations and technical services	0	0	48	290,000	+48	+290,000
Total obligations	0	0	48	30,390,000	+48	+30,390,000

Obligations by objects

	1964 presently available	1964 revised estimate	Increase (+) or decrease (−)
Total number of permanent positions	0	48	+48
Average number of all employees	0	19	+19
Number of employees at end of year	0	41	+41
11 Personnel compensation		$188,000	+$188,000
12 Personnel benefits	0	17,000	+17,000
21 Travel and transportation of persons	0	27,000	+27,000
22 Transportation of things	0	2,000	+2,000
23 Rent, communications, and utilities		16,000	+16,000
24 Printing and reproduction	0	7,000	+7,000
25 Other services	0	2,000	+2,000
Payment to "Bureau of State Services management fund"	0	6,000	+6,000
26 Supplies and materials	0	8,000	+8,000
31 Equipment	0	17,000	+17,000
33 Investments and loans	0	5,100,000	+5,100,000
41 Grants, subsidies, and contributions	0	25,000,000	+25,000,000
Total obligations	0	30,390,000	+30,390,000

Summary of changes

	Positions	Amount
Appropriation 1964	0	0
Revised estimate 1964	48	$30,390,000
Change	+48	+30,390,000
Increases:		
1. Grants for construction of teaching facilities for medical, dental, and other health personnel		25,000,000
2. Student loans		5,100,000
3. Operations and technical services	48	290,000
Net increases	48	30,390,000

GENERAL STATEMENT

As a result of enactment of Public Law 88–129, approved September 24, 1963, titled "Health Professions Educational Assistance Act of 1963," Federal funds will be provided on a grant basis to assist public or other nonprofit schools of medicine, dentistry, osteopathy, pharmacy, optometry, podiatry, nursing, and public health in the construction of teaching facilities. Such action will increase the opportunities for training of professional health personnel by providing additional teaching facilities, and will prevent the curtailment of enrollment or deterioration in the quality of training provided in existing schools by rehabilitating or replacing them. This is a 3-year program beginning with fiscal year 1964, with a total construction authorization of $175 million.

Sponsoring agencies will be provided technical assistance and consultation regarding the planning, programing, design, and construction of teaching facilities, and State, regional, or interstate planning agencies will be provided technical assistance regarding the type, kind, and location of additional facilities required to meet the teaching facility needs in the State or areas involved.

Project applications and plans and specifications will be reviewed for compliance with established regulations and standards. Projects will be approved on the basis of relative need after consultation with the National Advisory Council on Education for Health Professions. This Council will be composed of 16 members. Plans during the balance of this fiscal year provide for two meetings. Payments will be made as construction progresses.

Loan agreements will also be made in schools of medicine, osteopathy, or dentistry to be used by such schools to establish student loan funds for the making of loans to students pursuing a full-time course of study leading to a degree of doctor of medicine, doctor of dentistry, or equivalent, or doctor of osteopathy. Loans will be made in accordance with an agreement between the Secretary and the school involved. Such loans may not exceed $2,000 for any student for any academic year or its equivalent, and may be made only to students in need of the amount of such loan. Preference will be given to first-year students entering after June 30, 1963.

A request in the amount of $30,390,000 is submitted to carry out the provisions of the act during 1964. This amount provides $25 million for grants to assist in the construction and rehabilitation of teaching facilities for schools of medicine, osteopathy, dentistry, pharmacy, optometry, podiatry, nursing, or public health; $5,100,000 for a student loan fund in schools of medicine, dentistry, and osteopathy; and $290,000 for operations and technical services required in the administration of the programs.

The construction grant funds requested in the amount of $25 million would provide $15 million for the construction and expansion of medical and other health profession schools, excluding schools of dentistry; $5 million specifically for construction and expansion of dental schools; and $5 million for the replacement and rehabilitation of existing schools of all types.

The funds included in this request represent the first step in increasing the supply of physicians, dentists, and other health profession personnel. To maintain the present levels of supply of physicians and dentists in relation to population, the admissions during the next 10 years to medical schools must be increased by almost 50 percent and admissions to dental schools must be doubled. Specifically, to keep up with population increases alone, admissions to schools of medicine must be increased from 8,200 to 12,000 by 1971 and admissions to dental schools must be increased from 3,600 to 6,900. In order to meet this goal an estimated 20 new medical schools and 20 new dental schools or their equivalents in terms of expanded facilities must be constructed. In addition, a large-scale remodeling and replacement program must be undertaken, if some schools are to avoid the curtailment of enrollment or deterioration in the quality of training in existing schools.

A large number of schools have already indicated their intent to apply for construction assistance under this program. Letters have been received from 64 medical schools and 5 osteopathic schools estimating cost of construction at $550 million. Of this number, 14 are for completely new schools. Letters have been received from 37 dental schools with estimates of $147 million. Other professional schools submitting letters of intent and estimates are: nursing, 38 letters with an estimate of $30 million; public health, 5 letters with an estimate of $10 million; podiatry, 2 letters with no estimate; optometry, 7 letters with an estimate of $4 million; and pharmacy, 15 letters with an estimate of $8 million. A total of 172 letters of intent have been received with estimates from 122 of these totaling $749 million.

Projects will be approved on the basis of relative needs after consultation with the National Advisory Council on Education for Health Professions.

A total of $5,100,000 is requested for 1964 for the health professions student loan program authorized by part C of the act. Under this program, student loan funds will be established by participating schools from which low-interest loans will be made to medical, dental, and osteopathic students who need such financial assistance in order to pursue their courses of study.

The hearings which were held when the authorization for this act was being considered pointed to the great need for loan funds so as to increase the numbers of physicians and dentists to meet our future requirements.

The high cost of medical and dental education serves as a major obstacle to attracting adequate numbers of high-caliber individuals into these professions from the lower income groups. The 40 percent of families having incomes of $5,000 or less are the source of only 15 percent of the students in medical school. Only one-third of all dental students are from families whose incomes are $6,500 or less. Medicine and dentistry are the longest and most expensive professional areas of study, costing between $16,000 and $20,000. At the same time, there is a relative lack of financial support for students entering these professions as compared to other scientific professions. Thus, more than 10,000 Federal fellowships are available for graduate study in the natural and physical sciences, with no similar assistance available to medical and dental students. Leaders in medicine and dentistry are becoming increasingly concerned with the problems of finding enough well-qualified students to enter these professions.

There are 87 schools of medicine, 48 schools of dentistry, and 5 schools of osteopathy eligible to participate in this program. In 1962 these schools had an enrollment of approximately 31,000 medical students, 13,500 dental students, and 1,500 osteopathic students. Of the total student body of over 46,000 more than 12,000 were first-year students. We anticipate that these will increase in future years as this act is effected.

The $5,100,000 requested will be used to make Federal contribution to loan funds in those schools with which agreements are entered into to establish such funds. It will also provide Federal loans as authorized by section 744 to those schools which need to borrow Federal funds to meet the matching institutional contribution requirements. The amounts to be allocated to student loan funds would be sufficient to make maximum loans of $2,000 to 2,400 individuals, or about one-fifth of the total number of first-year students. However, the average amount borrowed will probably be somewhat less than the maximum, thus permitting a greater number of students to receive assistance.

This program will make a substantial contribution to alleviating the growing national shortage of physicians and dentists. It is also expected that it will increase the quality of medical care by enabling some well-qualified individuals to pursue professional education in these fields who could not otherwise do so and by increasing the quality of students in these schools as measured by the academic standing of persons gaining admission.

Action has already been taken to implement this act. The necessary regulations have been prepared. We have been working with the leaders in the schools of medicine, dentistry, and osteopathy to assure the speedy undertaking of the program. We anticipate that funds for loans will be available at the schools within 30 days after the appropriation act has been signed.

An estimate of $290,000 for salaries and expenses is requested for the administration of the programs during 1964. These funds will provide for 48 positions to carry out the following distinct operational phases:

A. Planning and construction of facilities, 39 positions and $228,000

This program will be administered by the Division of Hospital and Medical Facilities which has extensive experience in operating the Hill-Burton construction program.

The request for 39 positions for operations and technical services is distributed as follows:

Two medical officers, two dental officers, one nurse officer, and two public health program specialists will be required to develop regulations, procedures, and policies governing administration of the program, interpret the act, regulations, and policies to the general public and the professions involved, and provide immediate program direction and supervision for the several distinct phases of the program.

One medical officer, one dental officer, one nurse officer, and four public health program specialists will provide technical assistance and consultation to professional schools, arrange and participate in site visits, and review, evaluate, and prepare staff papers pertaining to proposed projects for use by the National Advisory Council.

Seven architects and seven engineers will provide technical assistance and consultation to professional health schools pertaining to design construction, and equipment of proposed facilities, and develop guide material pertaining to the design, construction, and equipment of public health schools.

Five statisticians will study and evaluate the data relating to the need for facilities in specific geographic areas, develop data and formulas for use by the Council in applying principles of priority, and maintain surveillance over the progress of the program and evolving needs.

Six clerical assistants will provide secretarial and clerical assistance to the above professional groups.

The general functions to be undertaken are outlined below:

1. Provide technical assistance and consultation to professional health schools regarding such problems as: the need for and urgency of the proposed construction; the relationship of the proposed construction to the program of the sponsoring agency; the design and functional layout of the facility; the availability of qualified students; and the existing and proposed educational program of the institution and their relationship to the proposed construction as will permit Council members and the Surgeon General to evaluate the need and relative priority and urgency of the project.

2. Arrange for site visits of Council members to schools seeking Federal aid for purpose of securing basic data and information which will enable the National Advisory Council and the Surgeon General to evaluate the validity of the project and its relative priority and urgency.

3. Develop guide material pertaining to the design, construction, and equipment of professional health schools. The staff of professional health personnel, architects, engineers, and other specialists will constantly study the changing requirements of teaching programs and reflect these requirements in design and equipment guide material for use by medical, dental, and other health profession educational institutions. This activity will produce vital design information for use by schools in planning and constructing facilities, and give maximum assurance that value will be received for each Federal dollar expended.

4. Review, evaluate, and approve or disapprove applications, after consultation with the National Advisory Council. This activity requires that each application be evaluated in relationship to such statutory and policy requirements as the relative effectiveness of the project in increasing first-year enrollment, availability of local finances, conformance of architectural plans and specifications to established requirements; and the need for constructing, expanding or rehabilitating the particular school involved.

5. Carry out all activities associated with the award of contracts and supervision of construction. This work involves such activities as obtaining wage rates from the Department of Labor, and maintaining surveillance over the payment of such rates by contractors, inspecting projects during construction, and making payments of Federal funds as construction progresses.

6. Develop and issue regulations, procedures, and policies which are adaptable to the several types of professional schools involved.

7. Maintain surveillance over progress made in producing additional teaching facilities and increasing enrollment, and the extent to which additional facilities are required in the various State or geographical areas of the country.

B. Student loan services, seven positions and $50,000

Three professional and four supporting positions are requested to carry out the following administrative functions:

1. Develop and issue regulations, procedures, and policies to implement the loan program and, through continuous review and evaluation, assure their validity and suitability.

2. Provide assistance and consultation to the 140 schools of medicine, dentistry, and osteopathy presently eligible for the loan program. Resolve questions concerning the eligibility for loans, method of computing amount of loans, computation of interest, methods for repayment, determination of needs, and a variety of other aspects related to the program.

3. Develop a schedule for sending and receipt of applications. Upon receipt of applications, review and analyze requests to determine amounts to be made available to the schools for (1) institutional loans to help meet their matching requirements and (2) loans to be made to students.

4. Develop and maintain a system of program and fiscal reports and records to assure availability of a wide range of data needed for management and evaluation of the program to enable activities such as (1) administration of the features of the act regarding repayment of institutional loans, (2) determination of the effectiveness of the program and its impact upon the composition of the student population of the profession receiving loans, (3) recommendation for changes in the program to assure maximum effectiveness.

C. Legal services—Office of the General Counsel, two positions and $12,000

Two new and substantial programs are added to the responsibilities to the Office of the General Counsel for which an attorney and a secretary are requested.

1. The construction program will require substantial legal services in completing, after discussion with the Advisory Council, a new set of Federal regulations which the act requires on matters of eligibility, priority, conditions for approving applications, amount of grants and standards of construction and equipment. Legal questions will arise not only in interpreting and applying these regulations, but also in resolving issues posed by particular provisions of the statute such as dealing with school accreditation, eligibility of particular schools and affiliated hospitals, and relationship between fund categories for new or enlarged schools and those for replacement of facilities, determination of eligible costs, and recovery of Federal funds for nonconforming use of the facility.

2. The loan program will require legal services in developing a set of regulations controlling the making and use of the Federal funds provided, in developing a form of agreement to be entered into with each school, and in preparing promissory notes or other evidence of indebtedness by the school and the student. Legal questions will arise as to such matters as eligibility of school applicants, allocation of Federal funds among qualified schools, eligibility and priority of student participants, rates of interest, maturity dates, and repayment obligation of student borrowers, and the legal relationship between their program and others providing assistance to students.

New positions requested, fiscal year 1964

Operations and technical services	Grade	Annual salary
Architects (5)	GS-13	$58,655
Attorney	GS-13	11,731
Engineer (5)	GS-13	58,655
Public health program specialists (3)	GS-13	35,193
Statistician	GS-13	11,731
Architects (2)	GS-12	19,968
Engineers (2)	GS-12	19,968
Financial management officer	GS-12	9,984
Public health program specialist	GS-12	9,984
Statisticians (4)	GS-12	39,936
Public health program specialists (2)	GS-11	16,848
Public health program specialist	GS-9	7,030
Clerical assistant	GS-7	5,803
Do	GS-6	5,242
Clerical assistants (3)	GS-5	14,103
Clerical assistants (6)	GS-4	25,332
Commissioned officers (2)	Dir	31,080
Commissioned officers (7)	Sr	101,220
Total new positions (48)		482,463
Deduct lapses		298,463
Net permanent		184,000

Environmental Health Sciences

"For an additional amount for 'Environmental health sciences', $1,200,000, *of which not to exceed $75,000 may be transferred to 'Communicable disease activities'*."

Amounts available for obligation

	1964 presently available	1964 revised estimate
Appropriation	$4,224,000	$5,424,000

Obligations by activities

Description	1964 presently available		1964 revised estimate		Increase or decrease	
	Positions	Amount	Positions	Amount	Positions	Amount
Grants		$3,127,000		$3,127,000		
Research		1,608,000		1,608,000		
Training		1,519,000		1,519,000		
Arctic Health Research Center	65	767,000	65	767,000		
Research, training, and technical services	13	330,000	38	1,530,000	+25	+$1,200,000
Research	10	270,000	35	1,470,000	+25	+1,200,000
Review and approval of grants	3	60,000	3	60,000		
Total obligations	78	4,224,000	103	5,424,000	+25	+1,200,000

Obligations by objects

	1964 presently available	1964 revised estimate	Increase or decrease
Total number of permanent positions	78	103	+25
Full-time equivalent of other positions	1	1	
Average number of all employees	67	77	+10
Number of employees at end of year:			
Permanent	78	103	+25
Other	1	3	+2
11 Personnel compensation:			
Permanent positions	$481,000	$564,000	+$83,000
Positions other than permanent	4,000	6,000	+2,000
Other personnel compensation	99,000	100,000	+1,000
Total personnel compensation	584,000	670,000	+86,000
12 Personnel benefits	54,000	62,000	+8,000
21 Travel and transportation of persons	48,000	63,000	+15,000
22 Transportation of things	18,000	21,000	+3,000
23 Rent, communications, and utilities	75,000	115,000	+40,000
24 Printing and reproduction	7,000	11,000	+4,000
25 Other services	47,000	72,000	+25,000
Services of other agencies	8,000	83,000	+75,000
Research contracts	60,000	860,000	+800,000
Payment to "Bureau of State Services management fund"	26,000	26,000	
26 Supplies and materials	67,000	86,000	+19,000
31 Equipment	103,000	228,000	+125,000
41 Grants, subsidies, and contributions	3,127,000	3,127,000	
Total obligations	4,224,000	5,424,000	+1,200,000

Summary of changes

	Positions	Amount
Available 1964	78	$4,224,000
Revised estimate 1964	103	5,424,000
Total change	+25	+1,200,000
Increases:		
Pesticide research and investigations:		
1. Community studies	9	$800,000
2. Occupational studies	6	200,000
3. Toxicology studies	10	200,000
Net increase	25	1,200,000

EXPLANATION OF INCREASES

Community studies.—An increase of nine positions and $800,000 is requested to initiate six community pesticide studies to determine the amounts of pesticides present in the environment and to trace the course of the pesticide residues through the environment to man. The communities selected will represent varying climatic situations and pesticide usage. An estimated $700,000 of this amount will be used for contractual agreements with universities and State and local health agencies.

Occupational studies.—An increase of six positions and $200,000 is requested to study the effects of pesticides on health of selected occupational groups that encounter more intensive levels of exposure during the manufacturing, processing, distribution, and application of pesticides. An estimated $100,000 of this amount will be for contractual agreements with universities and State and local health agencies.

Toxicology studies.—An increase of 10 positions and $200,000 is requested to conduct laboratory research to determine the reaction of animals to pesticides. Such studies will give us information on the complex problems of how pesticides are absorbed into the body tissues and the effects they have on the tissues and body processes.

PESTICIDE RESEARCH AND INVESTIGATIONS

The increasingly widespread contamination of the environment with pesticides has become a growing concern to the public, to the scientific community, and to responsible officials in Government. The President's Science Advisory Committee in recognition of this concern formed a Panel on the Use of Pesticides to undertake a review of what is now known about pesticides and their use. The Panel recommended that various Government agencies take action to increase our knowledge of pesticides and develop procedures to insure their safe use.

This estimate of $1,200,000 and 25 positions is requested to initiate new and expanded activities to implement those recommendations of the President's Science Advisory Committee which are the responsibility of the Public Health Service. These recommendations relate to: (1) assessment of the magnitude of the level of pesticides in the environment by the Public Health Service through cooperation with other governmental agencies; (2) determination of toxicity and potential carcinogenicity or mutagenicity of pesticides through acute and chronic studies; (3) determination of the routes of intake of these chemicals, their absorption, retention, or metabolism in the body; (4) development and organization of comprehensive data-gathering programs for ascertaining the level of pesticides in people.

The long-range objectives of our program are to learn what pesticides occur in man's environment, what pesticides get into his body, and at what levels, what effects these have on his health, and to develop programs which will permit realization of the full value of pesticides with minimum danger to health.

Pesticides have been of great value to man. They have increased food and fiber production and have been employed in the control of diseases carried by insects and other vectors. While pesticides have been used in small quantities for a long time, it is only since World War II that they have been in widespread use by the general population. Pesticide residues are now commonly found in the bodies of people and animals and in the environment. Information now at hand indicates that the use of these pesticides is not without health hazards. The President's Science Advisory Committee report states, "Precisely because pesticide chemicals are designed to kill or metabolically upset some living target organism, they are potentially dangerous to other living organisms." We know that people who have been exposed to larger doses of the chemicals, either through accidents, or in their normal work environment, become ill and sometimes die from such exposures. What we do not know are the latent effects on man's health that may result from continued and long exposure to smaller doses or low levels of these pesticides. In addition we do not know if there are tandem or complementary effects (synergism) of one or more pesticides, or of pesticides and other chemicals (drugs, reheated fats, hormones, etc.) which produce toxic or carcinogenic responses not observed in pesticides alone, or that in combination produce effects greater than the action of the pesticide alone.

The Public Health Service has in the past financed some activities related to pesticides, most of this being research grant support at universities. Other activities include the measurement of certain pesticides as part of the basic surveillance network programs in identifying contaminants in air, water, and milk. Studies have been made also on some of the insecticides used to control disease vectors.

The development and application of meaningful control measures to protect both the general population and specific high risk groups will require additional effort. First, it is proposed to do this by undertaking community pesticide studies in about six communities. In these communities the types and amounts of pesticides used and the amounts of pesticides present in air, water, diet, clothing, fields, lawns, and houses will be determined. Studies also will be made to determine the way the pesticides in the environment find their way into people, and the amount of residues that remain in their bodies. This information can then be related to toxicity information in such a way that the real hazards of pesticide exposures can be ascertained. Second, detailed studies of specific occupational groups which have prolonged and greater exposures to pesticides will be undertaken and these exposures will be related to the health of the workers. Third, new approaches in toxicological studies will be undertaken to determine not just the gross effect of pesticides on experimental animals but also the effect on organs, tissues, blood, or cells (especially DNA or deoxyribonucleic acid) in terms of acute and long-term exposure. It is only through these efforts that it will be possible to develop preventive and control measures applicable to those pesticides having an adverse effect on human health.

1. Community pesticide studies (9 positions, $800,000)

Preliminary studies have confirmed that many people carry pesticide residues in their bodies and that pesticide residues are encountered in our environment. The information we now possess indicates the need to collect and analyze information about the use of pesticides and the amount found in people in such a way that the findings can be related to each other. We need to know types of pesticides used, the purposes for which they are used (farming, pest control, household, lawn, and garden), the quantities used, the methods of application, and the seasonal variations in their use.

It is necessary to study the movement of pesticides through the environment, whether it be in air, water, diet, soil, or living hosts such as farm animals that subsequently form part of the food chain of man. We also need to establish the routes of intake, media of exposure, and the level of exposure and retention or body burden.

In order to do this, we propose to initiate about six community pesticide studies. These communities will be selected to correspond with major geographic areas of pesticide use by type of pesticide, purpose of use, methods of application, pathways of exposure of man, and other factors of significance.

We plan to make extensive use of the contractual mechanism in these studies to enable us to utilize the scientific capabilities of universities, research institutes, State and local health agencies, and other Federal agencies. In 1963 we contracted with a university to develop a detailed protocol for conducting such a community study. Included in this contract is also the development of identification and measuring techniques suitable for use in these community studies.

In the communities selected we will conduct the following activities: (1) Collect comprehensive data on the concentration of pesticides in various parts of the environment, on histories of complaints by exposed individuals, and on reports of contamination. Pathological and clinical examination of people will be made to determine their body level of pesticide residues. (2) Develop methodology, facilities, and skills of conducting routine tests and investigations. This would include the development of competency in analysis of residues of various pesticides in air, water, and diet. (3) Develop a continuing local network that will be coordinated with Federal monitoring networks which will monitor residue levels of pesticides in man and his total environment. (4) Conduct studies on the specific use and disposal of pesticides in the community. This would include procedures for handling episodes relating to pesticide poisoning. After all of these data are collected, they will be evaluated and correlated with the information that we and others have been accumulating from both laboratory and field studies.

While undertaking such community studies, we propose to develop public information and education programs designed to inform the public about the dangers of pesticides and how it can best protect itself. Those educational activities which are most effective will then be adapted for nationwide use, utilizing the resources of public and private agencies at the State and local levels.

Through these studies we expect that we can assemble rather complete knowledge about the presence of pesticides in a community and the presence of pesticide residues in the bodies of people living there. Information from these studies will be of valuable assistance in defining the problem for the general population as well as for specific groups of persons receiving more intensive exposures. With this type of information we can then begin to develop meaningful control techniques related to the use of pesticides and on methods to limit the population hazard.

It is estimated that $800,000 will be required to conduct these community studies. Contractual agreements will be made with universities, State, local, and other governmental agencies at an estimated cost of $700,000 to enable us to make a rapid start in this area. The balance of the funds, $100,000 and nine positions, is required to provide the program guidance for development, coordination, and supervision of these studies including the synthesis and evaluation of the resulting data.

2. Studies in the occupational environment (6 positions, $200,000)

The one area in which we have observed illness and death from pesticides is in the occupational environment where workers encounter more intensive exposure either accidentally or from the day-to-day exposure during manufacturing, processing, distribution, and application of pesticides. Studies of occupationally exposed groups are important for several reasons. First, they give us the earliest indications of ill effects from exposures and enable us to develop control principles and techniques in the less complicated and more clearly defined workers' environment. Second, and perhaps of far greater significance in the long run, is that such studies will indicate the possible dangers to the general population from long-term, low-level exposures to pesticides. For example, it was from the observations made on workers who used radium in painting watch dials, who operated X-ray machines, and who were exposed occupationally to other radioactive materials that we were alerted to the dangers of radiation to the general population.

Occupational studies will be concentrated on groups with high exposure. These groups include the manufacturing workers, formulators, ground applicators, and pilots engaged in spraying and dusting operations. Medical findings resulting from clinical examination of workers will be related to exposure by determinations of concentrations and conditions of exposure.

Clinical examinations will be supported by detailed biochemical studies of pesticide metabolites and early derangement in body metabolism. Exposures will be measured by means of environmental samples in conjunction with determinations in blood and tissue enzymes and excretion of metabolites in urine or feces. This permits quantification of dermal as well as respiratory and oral absorption. Other clinical evaluations will include those concerned with psychological performance, psychiatric screening, and direct measurements by electroencephalograms.

The occupational studies will require six positions and $200,000. It is planned to utilize $100,000 for contractual studies with universities and other institutions participating in these studies. The remaining funds of $100,000 will be used to increase intramural research activities, including expansion of laboratory capability and purchase of specialized scientific equipment.

3. Toxicology studies (10 positions, and $200,000)

A research program in sufficient depth must be initiated to obtain precise information on the mode of action of pesticides. These studies will extend beyond the conventional or classical toxicity studies undertaken in current programs of Public Health Service laboratories or elsewhere and will complement their efforts. As a first line of attack, attention will be directed toward the development of highly sensitive and rapid analytical procedures for measurement of minimal or trace levels of pesticides in the environment (air, water, milk, food, total diet, soil, etc.) and body tissue. For example, increased efforts will be directed to the development of (1) gas chromatographic procedures (2) isotope dilution procedures, (3) neutron activation, and (4) advanced "wet chemistry" procedures.

The population studies described previously will define the magnitude of the problem as to the level of pesticide exposure. In addition to this, more specific information on the biological action of pesticides at normal or subliminal levels must be provided. In research initiated with experimental animals, the biological action of pesticides will be studied with reference to routes of intake (inhalation, absorption through skin, or ingestion), the specific site of action or organ affected, and the metabolic fate of the pesticide in man or animals.

To further delineate the action of pesticides, more basic research data are required on the effect of a wide range of doses of pesticides in both short and long periods of time in experimental animals. This information should serve as a basis for assessment of the potential hazard to a human population under a variety of environmental conditions.

In these extended basic studies, the influence of repeated small exposures of pesticides will be investigated in terms of physiological performance, such as lactation, reproduction, genetic effects, or alteration as expressed in terms of size of fetus and aberrations in the offspring.

Further studies will be undertaken to ascertain not just the singular role of a pesticide, but also the synergistic action or enhancement of a specific biological action of the pesticide in combination with other chemical compounds or agents existing in the environment. Such compounds might be drugs or hormones administered to man, animal chemosterilants, other pesticides, food additives, food processing degradation products such as "reheated fats," or a bacterial or viral agent. Recent work reported in the literature illustrates the importance of the additive effect of several chemicals, especially in the induction of cancer.

In elucidation of the biological action of pesticides, research also will be conducted on the effect of this stress on certain metabolic pathways and the potential interruption of these metabolic cycles. For example, animals will receive radioactively tagged glucose, a simple carbohydrate which is rapidly metabolized in the body. Through the tagging of this compound with carbon 14, the expiration of radioactive carbon dioxide through the lungs, and the excretion of C–14 labeled compounds in the urine or feces can be followed.

Other refined and advanced biological assay procedures will be planned to demonstrate the ultimate effect of these environmental hazards on the body chemistry of man or animals and the eventual development of specific disease states.

The initiation of these investigations will require building toxicological competency, both staff and laboratory capabilities, within our environmental sciences activities. In addition $75,000 will be made available for transfer to the Communicable Disease Center to permit the undertaking of toxicological studies for which they have specific competency.

New positions requested, fiscal year 1964

Research, training, and technical services	Grade	Annual salary
Research: Pesticide research and investigations:		
Biochemist	GS–15	$15,683
Biologist	GS–15	15,683
Toxicologist	GS–15	15,683
Bioecologist	GS–14	13,624
Epidemiologist	GS–14	13,624
Pharmacologist	GS–14	13,624
Chemist	GS–13	11,731
Biometrician	GS–12	9,984
Biologist	GS–11	8,424
Histopathologist	GS–11	8,424
Research technician (3)	GS–9	21,090
Research technician (2)	GS–7	11,606
Statistical assistant	GS–6	5,242
Secretary (2)	GS–5	9,402
Laboratory technician	GS–4	4,222
Clerk-typist (3)	GS–3	11,670
Commissioned Officers:		
Director grade		10,560
Senior grade		8,220
Senior assistant grade		6,540
Total (25)		215,036

Water Programs of the Federal Government

(The following was submitted at the request of the committee but too late for printing in the hearings on water pollution control:)

WATER POLLUTION CONTROL INTERAGENCY RESPONSIBILITIES

The Department of Health, Education, and Welfare has statutory authority under the Federal Water Pollution Control Act for several activities which involve major interagency responsibilities. These are:

I. Water resources Research;
II. Comprehensive river basin program planning;
III. Water quality data collection.

The following is a review of each of these activities and includes mechanisms used to provide program coordination, estimated costs for 1964 and 1965 of Federal agencies having major responsibilities, and a brief description of their programs.

The information to develop this data was provided specifically to the Department of Health, Education, and Welfare by each department or agency concerned except that related to comprehensive river basin planning which was developed and coordinated by the Department of Interior. This was in accordance with Bureau of the Budget instructions that the Secretary of the Interior, working with other members of the Ad Hoc Water Resources Council, take such steps as may be necessary to arrange for preparation and presentation of such information and testimony as may be required.

I. WATER RESOURCES RESEARCH

The water resources field is so broad that many different Federal agencies have statutory responsibilities and objectives that require them to conduct or support research programs.

A. MECHANISMS FOR COORDINATION

The major mechanisms for coordinating water resources research are as follows:

1. A Committee on Water Resources Research of the Federal Council for Science and Technology was established in 1963 to coordinate the research activities of these agencies. The functions of this committee are generally as follows:

To identify technical needs and priorities in various research and related data categories;

Review the adequacy of the overall program in water resources research in relation to needs;

Recommend programs and measures to meet these needs:

Advise on desirable allocations of effort among the agencies;

Review and make recommendations concerning the manpower and facilities of the program;

Recommend management policies and procedures to improve the quality and vigor of the research effort; and

Generally facilitate interagency communication and coordination at management levels.

2. A HEW-Interior Water Quality Coordination Committee was established in August 1963 by the two Secretaries to coordinate programs in the whole area of water quality. In 1964, beneficial information on water research programs has been developed and exchanged, and meetings to coordinate programs and plans through 1965 have been held.

In addition, informal technical liaison relating to research activities has been maintained between the personnel of the Division of Water Supply and Pollution Control and personnel of agencies of the Department of Interior (the Bureaus of Sport Fisheries and Wildlife, Commercial Fisheries, Mines and Reclamation, the Geological Survey, and the Office of Saline Water), as well as with the agencies of the other departments doing water research.

B. Estimated costs

[In millions]

	Estimated	
	1964	1965
Department of Health, Education, and Welfare	$16.6	$12.1
Department of Agriculture	11.0	11.8
Department of Commerce	2.0	2.6
Department of the Army	3.4	3.4
Department of the Interior	31.6	36.0
Atomic Energy Commission	3.3	3.0
National Science Foundation	2.0	2.2
Tennessee Valley Authority	.9	1.0
Total	70.8	72.1

C. AGENCY PROGRAMS

1. Department of Health, Education, and Welfare

The Department of Health, Education, and Welfare has basic statutory responsibilities for water resources research under the Federal Water Pollution Control Act and the Public Health Service Act. It has responsibility to support and aid technical research related to the prevention and control of water pollution.

The Public Health Service in cooperation with appropriate public authorities, agencies, and institutions; private agencies and institutions, and individuals, carries out a program of basic and applied research broadly directed to (1) determining the causes and effects and pollution of the Nation's water resources, and (2) the development of the pollution prevention and control measures necessary to maintain the national water resources at a quality continuously suitable for domestic and municipal water supply, industrial and agricultural purposes, recreation, propagation of fish and other aquatic life and wildlife, and other beneficial uses.

In carrying out its responsibilities, the Department is authorized to make available the results of research and demonstrations relating to the prevention and control of water pollution; to make grants-in-aid and contracts for research or training and demonstration projects; to provide training in pollution control to personnel of public agencies and other persons having suitable qualifications; and, upon the request of any State or interstate water pollution control agency, to conduct investigations and research and to make surveys concerning any specific problem of water pollution confronting any State, interstate agency, community, and municipality, or industrial plant, with a view to recommending a solution for such problems.

Furthermore, the Department is directed to conduct research on and to develop and demonstrate means of treating municipal sewage and other waterborne wastes to remove the maximum possible amounts of physical, chemical, and biological pollutants; and on improved methods and procedures to identify and measure the effects on water quality and water uses of augmented streamflows designed to control water pollution not susceptible to other means of abatement.

To carry out these responsibilities, and to promote the objectives of the Department, seven laboratories are being established for research, investigations, experiments, field demonstrations and studies, and training relating to the prevention and control of water pollution. They will be located near institutions of higher learning in which graduate training in such research might be carried out.

Two water quality standards research laboratories, one for fresh water and one for salt water, have also been authorized.

The responsibilities of the Department for preparation and development of comprehensive programs for eliminating or reducing the pollution of the waters of the United States, and for planning for the inclusion of storage in Federal reservoirs for streamflow regulation for water-quality control, also generate a need for research into ways of dealing with these subjects.

2. *Department of Agriculture*

Authorized operational programs of the Department of Agriculture, carried out through nine different agencies, usually in cooperation with State agencies and local organizations, include: (1) Technical and other assistance to soil conservation districts and individual farmers in planning and installing soil and water conservation programs; (2) cost-sharing assistance to farmers for specified soil and water conservation practices; (3) loans to individuals and water-use associations for water facilities, irrigation improvements, rural waste-disposal systems, soil and water conservation and erosion prevention, and related measures; (4) assistance to local sponsors of resource conservation and development projects; (5) assistance on rural renewal projects; (6) planning and financial assistance and loans to local watershed organizations in planning and carrying out works of improvement for flood prevention and damage abatement, irrigation and drainage, fish, wildlife, and recreation development, and municipal and industrial water supply; (7) participation in cooperative State and private forestry programs and management, protection and development, and proper use of the 186 million acres in the national forests and grasslands; (8) credit and other assistance to organizations furnishing electric energy to persons in rural areas, among other things, to finance construction of steam and hydroelectric generating plants; and (9) participation in comprehensive river basin development activities.

The close association in USDA between research and action in land and water use is of great importance. Each serves the other. Action programs in the Department dealing with more than three-fourths of the land area in the United States are principal users—often the first users—of research results.

The Department of Agriculture has broad authority to engage in research as it bears on agriculture and the programs administered by the Department. It may engage in research (1) directly through its own facilities and personnel; (2) through the State agricultural experiment stations, both by cooperation and through grants; and (3) through research grants and contracts with nonprofit institutions of higher education and other such organizations engaged in scientific research. The Department often cooperates with agricultural experiment stations on projects of regional and national significance.

These programs include basic research in the natural, physical, biological, social, and engineering sciences underlying water research.

Water research in USDA and the State agricultural experiment stations is concentrated on problems related to water and land management for plant growth and economic and institutional problems of water development and management. The Agricultural Research Service conducts a broad program of research in Department laboratories, in cooperation with other Federal agencies and in cooperation with State agricultural experiment stations, on precipitation, evaporation, transpiration, water movement in soils, soil-waterplant relationships, watershed protection, erosion and sedimentation, upstream flood abatement, irrigation, drainage, and agricultural use of water of impaired quality. The Forest Service research emphasizes watershed protection, water yield, erosion and sedimentation, and upstream flood abatement. The Economic Research Service conducts research on the role of water in regional and national growth; on the economics of water development and management, watersheds, and water values; and on the economic analysis of water institutions. The State agricultural experiment stations use Federal-grant funds appropriated under the Hatch Act, together with State and other non-Federal funds and grant funds from other Federal agencies, to support a broad program of water resource research. Areas of emphasis include water movement in the soil, soil-waterplant relationships, water yield, irrigation and drainage, and the economics of water management and development. Some research on recreational use of water is underway.

The U.S. Department of Agriculture has built several new soil and water and forest research laboratories at field locations in recent years in accordance with facility needs programed for soil and water conservation and forestry research (S. Doc. 59, 86th Cong., 1st sess.). Public Law 74, 88th Congress, authorizes grants for research facilities to each State to be matched by an equal amount of funds from State sources. A portion of the funds that may be provided under this authority will be directed toward water resources research.

3. *Department of Commerce*

Department of Commerce agencies having statutory responsibilities entailing water resources research include the Weather Bureau, Bureau of Public Roads, Coast and Geodetic Survey, Maritime Administration, and Business and Defense Services Administration.

The primary mission of the Weather Bureau is to provide a national service for reporting weather and climate—including precipitation, evaporation, and river stages—and for issuing forecasts and warnings of weather and river conditions affecting the Nation's safety and economic welfare. The reliability of prediction is a true test of knowledge; conversely, erroneous forecasts signify a need for rsearch. Thus, the Bureau has found it necessary to pursue major research programs involving the evaluation and prediction of water movement in all phases of the hydrologic cycle. The agency probably would also have a major responsibility for operational aspects of Federal programs in weather modification, if it becomes feasible, which necessitates a research program in this field. The Weather Bureau receives a considerable portion of its funds for hydrometeorological observations and research by transfer from other agencies.

The Bureau of Public Roads is involved in water resources research to the extent necessary to provide adequate protection of the highway system and highway traffic against damage by floods and other storm hazards.

The Coast and Geodetic Survey's research program in the field of water resources is largely concerned with the part played by the oceans in the hydrologic cycle. The agency's responsibilities lead it to have an interest in research on land settlement and displacement resulting from lowering of ground water levels, erosion, and sedimentation in coastal areas, estuarine oceanography and coastal engineering, measurement and prediction of tides, and problems of movement of the earth's crust. Part of the Coast and Geodetic Survey's research programs on water is funded and dealt with in connection with the Federal program for oceanographic research.

The Maritime Administration includes among its statutory responsibilities certain missions that have a direct relationship to water resources programs. Research work is sponsored in connection with development of information on salinity; pollution content of water; bottom relief and characteristics; tide characteristics, volume discharge, and velocity of flow; flood stages and causes; current directions and velocities; and port development; industrial development along navigable waterways, and long-range planning associated with river and harbor improvements. The Maritime Administration was authorized to prepare for the operation of the atomic vessel NS *Savannah*. As a result, certain environmental surveys were or are being carried on by the Public Health Service, Corps of Engineers, Weather Bureau, Coast and Geodetic Survey, and Geological Survey with Maritime Administration and Atomic Energy Commission funds, relative to water circulation in harbors, harbor models, flocculating agents, salinity and pollution, and climatology of 60 selected ports; and to salt water encroachment into fresh water aquifers along the Delaware River.

Work of the Business and Defense Services Administration becomes involved with water resources research in connection with the agency's objective of assisting in the development of the industry and commerce of the Nation. Since industrial growth depends in part on the adequacy of water supply, the Business and Defense Services Administration conducts selected research into the economic aspects of water resources development and the development of methods for prediction of future trends of water use in relation to economic growth.

4. Department of the Army

In accordance with the practice of the Federal Council for Science and Technology, the water-related research activities of the Department of Defense that are primarily oriented to its military mission are not considered as water resources research. Accordingly, the water resources research program of the Department of the Army, as covered herein, is that undertaken by the Corps of Engineers in connection with its civil works mission.

The current Corps of Engineers civil works responsibility encompasses a major part of the Federal activity in development of water and related land resources. It comprises the planning, design, construction, and operation and maintenance of single and multiple-purpose projects and project systems aimed at meeting the Nation's needs for: better waterborne transportation; protection from storms and floods; provision of major drainage facilities; development of hydroelectric power; conservation of water for domestic, industrial, and agricultural purposes; water quality control and mitigation of other adverse low-flow effects through riverflow regulation; riverbank protection; and control of coastal and Great Lakes shore erosion. At the same time, the civil works program provides for the conservation and enhancement of fish and wildlife values, and for meeting the growing needs for water-oriented outdoor recreation. The Corps of Engineers also has regulatory functions in connection with navigable waters, is responsible for emergency flood fighting and rescue work, and constructs and operates the water supply system of the Nation's Capital. These civil works activities, widely distributed throughout the Nation and its oversea possessions, are currently being accomplished at an expenditure level of over a billion dollars a year.

In support of these wide-ranging activities, the Corps of Engineers carries on a comprehensive program of research and development directly related to fulfilling its civil works responsibilities with maximum effectiveness and economy. As a world leader in water resources development, the Corps of Engineers is confronted with many problems of planning, design, and construction that are not normally considered by other governmental agencies, industry, universities, or other research orgaizations. The establishment of plans for optimum development of river basin systems; extension and analysis of hydrologic data; design of concrete, earthfill, and rockfill dams; subsurface explorations and treatment of foundations; mixing and placing large volumes of low-cement-factor mass concrete; design, construction, and operation of navigation locks; dredging; shoaling in connection with river and harbor navigation; protection against high-velocity flows; prevention of hydraulic cavitation and erosion of spillways; and design, construction and maintenance of breakwaters, groins, jetties, and similar shore protection structures—all of these areas of concern to the Corps of Engineers generate requirements for research to overcome inadequacies of basic information and to develop improved techniques.

5. Department of the Interior

The Department of the Interior is concerned with the study of water as a resource, with the use and control of water, with increasing water supplies from all sources while at the same time serving and developing multiple-purpose uses of existing supplies, with integrated systems of river basin and watershed development, with water in the environment of fish and wildlife, and with the economic and engineering aspects of water projects of many different kinds.

Legal authority for the Interior Department's water resources research is explicit or implicit in a large number of congressional enactments, some of which are specific to particular fields of research and some of which provide for water research very broadly. It is the only Department having authority for water resources research throughout the country without limitation or relation to specific operational problems.

The Geological Survey carries out water resources research and data collection and interpretation pursuant to the objectives of its Organic Act of March 3, 1879, which directs the examination of the mineral resources and products of the national domain, and of subsequent legislation. Specific appropriations by Congress for gaging streams and performing other functions relating to water resources have been made annually since 1894.

Although the systematic collection of streamflow data that constituted the first direct "water product" of the arid lands survey begun by the Survey in 1888 might not now be considered a research program, at the time it broke new ground in developing techniques and defining the resource, and led to the establishing of research programs in basic hydrology. The present research program of the Geological Survey includes study of water in all its forms, solid, liquid, and vapor, of its quantity and quality, and of its distribution in time and in place. It carries out its research with funds provided by Congress—matched, for large segments of its work, with funds provided by the States. The Survey has no construction or operational responsibilities; its research programs, therefore, are not aimed at any particular operational program, although they produce information that lies at the foundation of all plans for the improvement of water use and control. The Survey through its broad-gage studies of geology and physiography and its particular experience and personnel makeup in water studies is especially qualified for research on water occurrence and movement in broad hydrologic systems—ground water reservoirs and related surface water bodies—and on the effect of man's activities on these systems and the principles governing their practical development and control.

Over the years, missions of the Department of the Interior have been enlarged to cover many other fields of basic and applied research in water. The Bureau of Land Management carries out research programs in some of the same fields as the Department of Agriculture, in order to discharge effectively its responsibilities for management of more than 467 million acres of public lands. Better means are needed to provide adequate water for the many beneficial uses of these public lands, and to prevent waste and assure conservative use. The development of adapted plant species that utilize water more efficiency than do the most prevalent native species is of importance, as well as the establishment of practical means of vegetative conversion to these superior plants. There is need also for more effective practices in eliminating or reducing the discharge of soil-erosional and other pollutants from public lands, and operations located thereon, to streams and water storage facilities.

The Bureau of Reclamation was established for the reclamation of arid lands in the West. The early reclamation projects were constructed without sufficient research, and as a result some of the first settlers on reclamation projects experienced severe economic hardships, and several projects had to be abandoned. As the agency gained more experience, mistakes were corrected, and research programs were established to develop the basis for successful reclamation. The Bureau of Reclamation now conducts important research in matters concerning streamflow regulation, water quality control, evaporation and seepage reduction, and other means of increasing efficiency of irrigation; induced precipitation; control of sedimentation; and economic and other aspects of multiple-purpose river basin development.

The Bureau of Indian Affairs, having responsibilities for irrigation of Indian lands, is concerned with some of the same problems as the Bureau of Reclamation in the field of water resources. In discharging its responsibilities for the management and protection of watersheds on Indian reservations, the Indian Bureau is concerned also with many of the same problems as the Bureau of Land Management and the Department of Agriculture.

The statutory responsibility of the National Park Service for protection and regulation of national parks and monuments has led the agency to be concerned with research in various aspects of water resources in relation to recreational pursuits.

The Bureau of Mines is concerned with water resources research because of its primary mission to assure that the Nation has a supply of usable minerals to meet its needs in war and peace. This mission calls for the prevention or reduction of the waste of mineral resources. Since water is one of the primary raw materials required by the mineral industry, research in the fields of water use, water quality, and water supply are of concern to the Bureau of Mines. Its activities are related to problems of the mineral industry and the national interest in utilization of mineral resources, taking advantage of appropriate research accomplished by others.

The Office of Saline Water was established by the Department of the Interior to carry out the responsibilities placed in the Department by the act of July 3, 1952, as amended June 29, 1955, and September 22, 1961. The primary objective of this legislation is the development of low-cost means for the large-scale production of potable water from saline water, and for studies and research related thereto. The exercise of this responsibility has necessitated the establishment of major water research programs on an expanding scale.

The Fish and Wildlife Service, composed of the Bureau of Commercial Fisheries and the Bureau of Sport Fisheries and Wildlife, was established to conserve the Nation's fish and wildlife resources. It has responsibilities for the study and protection of the fish and shellfish that inhabit the seas bordering our shores, the fish that inhabit the inland waters, and the wildlife that is part of our natural heritage. To exercise these responsibilities, the Service must be concerned with water resources, and it has many programs that deal indirectly with water. To understand the life histories of these animals we must know how water influences their development, how position affects their existence, and how manmade changes affect their environment.

Specifically, the Secretary of the Interior, through the Fish and Wildlife Service and the Bureau of Mines, is authorized to make such investigations as he deems necessary to determine the effects on wildlife of domestic sewage; mine, petroleum, and other industrial wastes; sediment resulting from erosion; and other polluting substances.

6. *U.S. Atomic Energy Commission*

By the Atomic Energy Act of 1954 (Public Law 83–703) and subsequent amendments, the Atomic Energy Commission is empowered to carry out the policy of the United States on atomic energy. This policy is to develop, use, and control atomic energy in such a way as to make the maximum contribution to the general welfare, common defense, and security, and to promote world peace, improve general welfare, increase the standard of living, and strengthen free competition in private enterprise. The AEC is directed among other things to conduct research and development and training activities in or related to nuclear processes, theory and production of atomic energy, utilization of special nuclear and radioactive material, and protection of health and promotion of safety during research and production activities and to produce or provide for the production of special nuclear material. The AEC, on behalf of the United States, administers and controls all special nuclear materials; it also is authorized to control all source materials and all byproduct materials in the United States and its subsequent distribution outside the United States. The AEC is authorized to make such studies and investigations, obtain such information and hold such meetings as the Commission may deem necessary or proper to assist it in any authority provided in its enabling act, or in the administration or enforcement of the act or any regulations or orders issued thereunder. The Commission is also authorized to conduct experiments and do research and development in the military application of atomic energy and to engage in the production of atomic weapons.

Under this act the AEC acquires raw materials, produces special nuclear materials, engages in production, storage, and testing of nuclear weapons, develops and improves nuclear power reactors and associated operations, conducts research programs in physics, chemistry, biology, and medicine, encourages uses of isotopes and develops methods for utilizing nuclear explosives for peaceful purposes.

AEC becomes involved in the field of water resources in two different ways: One has to do with the control of radioactive materials and the other has to do with the application of atomic energy to improve the welfare of the Nation.

Activities in AEC related to control of radioactive materials include intensive environmental studies to understand the possible distribution and effects of radioactivity, from waste disposal or detonation of nuclear explosives, into ground waters or surface waters. This understanding enables design, development, and application of adequate systems to control releases to the environment or effects on man from the environment. These activities are closely linked with interests and programs of other Federal, State, and local agencies such as the Public Health, Service, Weather Bureau, Geological Survey, Coast and Geodetic Survey, Bureau of Mines, Fish and Wildlife Service, and the Department of Defense agencies. Significant portions of the AEC's research and development in this area is undertaken in cooperative projects with some of these agencies.

AEC activities related to investigation and development of uses and applications of radioisotopes and nuclear techniques as unique tools for measurement and analysis may be of wide reaching significance in attacking a wide variety of water resources problems.

The agency also becomes involved in water resources research and development in a secondary (and longer range) way through one of its major missions of developing economical power. Heat or electrical energy derived from nuclear sources may be used to alter the distribution of available water supplies by pumping or by making potable waters out of nonpotable waters (desalting). Peaceful nuclear explosives may also have some future application in this general area. Budget support for work in these areas is not included in the table of estimated costs.

7. *National Science Foundation*

The Foundation is unique in that it has no defined mission other than the support and encouragement of basic research and education in the sciences. The Foundation, therefore, has no specific responsibility in connection with research in water resources.

With respect to basic research, the Foundation considers all proposals including those dealing with water-related research. Most proposals to the Foundation originate in or are sponsored by the various universities throughout the country. Because of the relatively small number of water proposals received by the Foundation, it has not been necessary or prudent to provide specialized staff assistance or a special program to handle them. Water proposals, therefore, go to one of several of the research programs (atmospheric sciences, earth sciences, etc.) where they compete for support with other research proposals. Except for the special field of weather modification, the Foundation has made no effort to channel funds to any one facet of water research.

8. *Tennessee Valley Authority*

Sections 1, 4(g), 4(j), 5(c), and 9a of the Tennessee Valley Authority Act, as amended, include authority for TVA's water resources and related research, which centers around the hydrologic, biologic, and economic problems arising out of the water control and resource development functions vested in TVA by these sections. Section 1 states that TVA is created "in the interest of * * * agricultural and industrial development, and to improve navigation in the Tennessee River and to control the destructive floodwaters in the Tennesseee River and Mississippi River Basins." Section 4(j) authorizes construction of dams and reservoirs in the Tennessee and its tributaries for purposes of navigation and flood control. Section 5(c) provides for cooperative activity for the prevention of soil erosion. Section 9a directs the TVA Board, in the operation of any dam or reservoir, to regulate the streamflow primarily for the purpose of promoting navigation and controlling floods. Effective execution of these responsibilities requires research of the type outlined above. Section 4(g) of the Tennessee Valley Authority Act grants to the Board "such powers as may be necessary or appropriate for the exercise of the powers herein specifically conferred upon the corporation."

In addition, section 22 of the Tennessee Valley Authority Act expressly confers authority to make such studies and experiments as may be necessary and suitable to aid in the proper use, conservation, and development of the natural resources of the Tennesseee River drainage basin and of such adjoining territory as may be related to or materially affected by the development consequent to the Tennessee Valley Authority Act and to promote the general welfare of the citizens of that area.

II. DEVELOPMENT OF COMPREHENSIVE RIVER BASIN PROGRAMS AND PLANNING IN CONNECTION WITH FEDERAL WATER RESOURCES PLANNING

The following statement is related to the comprehensive river basin planning of construction agencies and to that part of the Department of Health, Education, and Welfare comprehensive programs to meet the needs of these agencies in river basin studies currently underway.

A. MECHANISMS FOR COORDINATION

The major mechanisms for coordinating water resource development planning are as follows:

1. In 1961, an ad hoc Water Resources Council comprised of the Secretaries of the four departments concerned was established by memorandum of the President to work toward coordination of river basin planning. As its initial task, the Council prepared a set of uniform standards for the formulation and evaluation of water resource projects (S. Doc. 97).

In 1963, the Interdepartmental Staff Committee of the Council began work to develop a coordinated river basin planning program consistent with the need of each agency concerned and to prepare a more definite schedule of nationwide basin planning for use in preparing budgetary requirements for 1965 and subsequent years. The 1965 budget estimates for the various departments for comprehensive river basin planning is a coordinated effort.

2. An interagency Committee on Water Resources was established by 1954 Executive order to coordinate Federal water resource programs. The Committee's charter calls specifically for coordination of water resource planning and basic data activities. Among the activities of this Committee has been the development of a procedure for interagency review of all Federal reports on water resources projects. The Committee has several subcommittees, such as Hydrology and Sedimentation, for more specific functional coordination.

Field committees following the same general organizational pattern as the Interagency Committee on Water Resources are located in the Columbia River Basin, the Pacific southwest region, the Arkansas-White-Red River Basins, the Missouri River Basin, the northeast region, and the southeast region.

B. Estimated costs

[In millions of dollars]

	Estimated	
	1964	1965
Department of Agriculture	1.4	2.4
Department of Army	2.9	4.5
Department of Health, Education, and Welfare [1]	.4	.4
Department of the Interior	.3	1.0
Total	5.0	8.3

[1] Total costs of developing comprehensive river basin programs for pollution control are $5,157,000 for 1964 and $7,018,000 for 1965. The figures cited above are those portions of these total costs which are directly related to the needs of the other 3 departments in connection with their comprehensive river basin studies currently underway. An additional portion of these total costs will be related to the needs of these departments in connection with river basin studies to be initiated by them in future years.

C. AGENCY PROGRAMS

1. Department of Agriculture

The Department of Agriculture analyzes and develops projections of the agricultural, forestry, and related economies, their use of land and water resources, and their relationship to the total economy of the basin or region. It studies and investigates agricultural, rural, and upstream water and related land resource problems and needs for development. The water problems analyzed include floodwater and sediment damage to rural lands and properties, impaired drainage of agricultural lands, agricultural drought problems and irrigation requirements, water needs for livestock and rural domestic use, recreation, fish and wildlife, and forest-based industries. It inventories and analyzes potential water and related land resource development in upstream watersheds including an analysis of water storage capacity, the effect of land use and management practices on water quality and flow characteristics, and the potential hydrologic effect of agricultural, rural, and upstream watershed developments. Consideration also is given to the effects of potentials of water resource development projects on lands and programs administered by the Department. The Department participates in the formulation of coordinated comprehensive plans for, or approaches to, water and related land resource development including appraisals of the economic impact of the agricultural aspects of improvements considered for inclusion in them. This work is carried out through its Soil Conservation Service, Forest Service, and Economic Research Service in coordination with other agencies to avoid duplication.

2. Department of the Army

The Department of the Army through the Corps of Engineers participates with other agencies in the provision, correlation, and consolidation of information from studies, in the analysis of water problems relating to all uses and in the formulation of comprehensive plans for use and development of a basin's water and related land resources.

The Corps of Engineers determines the magnitude of present and future requirements for, and values of, flood control measures and improved navigation facilities and collaborates with other participating agencies in the determination of needs and values for water supply, water quality control, hydroelectric power, water-oriented recreation, fish and wildlife conservation, and other purposes of water resource use and development. In the case of detailed comprehensive studies, it formulates plans for specific single- and multiple-purpose projects. In so doing, it coordinates with other agencies so as to consider all needs and to avoid duplication.

3. Department of Health, Education, and Welfare

The contribution of the Department of Health, Education, and Welfare to river basin studies and plans with the other three Departments is made through its comprehensive water pollution control development program. Coordinated with the work of other participating agencies, present and projected needs for municipal and industrial water are determined and present and projected water qualities are appraised, and the measures required to obtain acceptable water quality levels are formulated. Advice is given other agencies in appraising the value of storage for water supply and water quality control.

4. Department of the Interior

The Department of the Interior participates in the provision, correlation, and consolidation of information from studies, in the analysis of water problems, and in the formulation of comprehensive plans for use and development of a basin's water and related land resources. It coordinates the participation of its several agencies with the other agencies through its regional coordinators to avoid duplication.

Within the scope of its jurisdiction, the Bureau of Reclamation estimates the magnitude of present and future requirements for, and values of, irrigation that could be provided by Federal projects and participates with other agencies in the determination of needs and values for water supply, water quality control, hydroelectric power, water-oriented recreation, fish and wildlife conservation, and other purposes of water resource use and development. In the case of detailed comprehensive studies within the area of its jurisdiction, the Bureau formulates plans for specific single- and multiple-purpose works and coordinates such planning with other agencies so as to consider all needs and to avoid duplication. Plans for federally assisted small reclamation projects are also coordinated with other participating agencies.

Within the areas of their jurisdiction, the several power marketing agencies—the Bureau of Reclamation, Bonneville Power Administration, Southwestern Power Administration, and the Southeastern Power Administration—participate in the determination of power requirements and power potentials of multiple-purpose developments. Outside these areas this participation is the responsibility of the staff of the Assistant Secretary, Water and Power Development.

More detailed studies require examination of the effects of the proposed projects on existing power development in the basins and adjacent areas, determination of the usability of potential hydropower, determination of additional transmission system requirements, including characteristics and costs, consideration of integration of new projects with existing systems, consideration of cost allocations, estimation of net power revenues and working with existing and potential customers in establishing specific markets and schedules for power use.

The Bureau of Outdoor Recreation participates in comprehensive river basin studies, in the estimation of the demand for and supply of outdoor recreation, evaluation of potentials and coordination of recreation plans of the participating agencies in relation to the nationwide outdoor recreation plan, when available.

The National Park Service, within the framework of existing interagency agreements, identifies areas which appear to have potential for national recreation areas or other units of the national park system. It also considers historic and archeological resources which would be affected by potential and proposed developments.

The Bureau of Sport Fisheries and Wildlife and the Bureau of Commercial Fisheries estimate future requirements of fish and wildlife and study fish and wildlife population, distribution, habitat, commercial catch, and man-days of fishing and hunting. Possible effects of future development on fish and wildlife are considered and, for more detailed studies, plans are prepared for the conservation and development of these resources and their utilization by people as a part of the comprehensive development of each river basin.

The Geological Survey carries out investigations relative to the occurrence and movement of surface and ground waters and quality of these waters. These investigations consist of collection of data and the use of these new or existing data in the description of the basic hydrologic systems operative within the basins. Essentially all of this work is a part of the basic needs of other agencies carrying out related investigations of water and related land resources.

The Bureau of Mines prepares, where required, more detailed economic analyses and projections relating to all mineral resources, developed and potential; studies water requirements of mineral and mineral-processing industries; and considers the problems of water pollution resulting from mines and metal-processing industries. The role of minerals in navigation, power use, and other areas of potential development and use are also studied when required.

The Bureau of Land Management participates in river basin planning with respect to public lands under its jurisditcion. It reassembles, collects, and correlates public land data by river basins where needed for planning purposes. It plans for the multiple use of related land resources on public lands with emphasis on watershed, range, and forest conservation for production and public uses including recreation facilities where needed to protect public resources.

The Bureau of Indian Affairs considers the needs of Indians with respect to water and related land resource development on or near Indian reservations. It considers the effect and makes recommendations concerning potential developments involving Indian communities.

Department of Health, Education, and Welfare

The previous statement relates to the Department of Health, Education, and Welfare's river basin planning activities as these contribute directly to the river basin planning studies of the other three departments concerned. In addition, HEW is including the following statement in order to provide information on the full range of its comprehensive river basin planning activities.

The development of comprehensive water pollution control programs involves a wide range of activities in addition to those required to provide the information which is directly related to the needs of the other three departments.

The Federal Water Pollution Control Act assigns authority for the development of comprehensive programs, and provides guidance on the elements to be included in those programs. The act requires the Secretary of Health, Education, and Welfare, in cooperation with other Federal agencies, with State water pollution control agencies, and with all other agencies, municipalities, and industries involved to develop comprehensive programs for eliminating pollution of surface and underground waters, giving due regard to the improvements necessary to conserve waters for public water supplies, propagation of fish and aquatic life, other wildlife, recreational purposes, agricultural and industrial uses, and all other legitimate uses.

The comprehensive program, when developed, serves to coordinate the actions of water pollution control authorities at Federal, interstate, State, and municipal levels; giving impetus to the efforts and providing a background for action of citizens' groups interested in the preservation of clean water; and providing a basis for mutual cooperation of industries, municipalities, and operating agencies at all levels of government. It serves as a framework within which all elements of the Federal Water Pollution Control Act can be effectively applied. These include the provisions for interstate cooperation and uniform laws; research, investigations, training, and information; grants for water pollution control programs; grants for construction of treatment works; provisions for a water pollution control advisory board; enforcement measures against pollution; and cooperation to control pollution from Federal installations.

Factual data required for the development of a comprehensive program include knowledge of the rate of economic development; of the time and place where water uses are likely to develop; of likely recreational trends and water needs;

and of the quantity, character, time, and place of probable waste discharges. Engineering data and operations analysis are needed to combine cost and effectiveness of various pollution control measures with benefits obtained to determine optimum conditions. The combination of measures to produce maximum results with minimum expenditure will vary according to time and place in the basin and according to the nature of water resources (surface streams, ground water, estuaries, coastal waters) to be protected.

To insure that control measures are effective and that wasteful inefficiency is avoided, a wide spectrum of scientific information and economic projects are required. The type and priority of individual investigations will vary from one basin to the next depending on the nature of water resources and the existence of pressing problems in any particular river basin. However, as a general rule, the following information is assembled in each major water resource basin: (1) Economic projections over a period sufficiently long to evaluate trends and permit long-range planning; (2) hydrological data and interpretative material; (3) basic information of the water resources' physical and biological characteristics; (4) projections of potential water uses and waste water discharges over the period of planning; (5) estimates of capability for collecting and treating wastes during the planning period; (6) calculation of streamflow regulation required to reduce the adverse effects of pollutants that cannot be removed or treated adequately at the source; and (7) operational or systems analysis for determining timing and optimum cost of control measures and other activities required to implement the comprehensive program.

III. WATER QUALITY DATA COLLECTION

Water quality data are essential to Federal, State, and local agency programs to carry out their related responsibilities in evaluating, regulating, and managing the water resources of the Nation. HEW and Interior are the principal collectors and users of water quality data.

A. MECHANISMS FOR COORDINATION

1. Water quality data collection is coordinated through the Interagency Committee on Water Resources and their field interagency committees.
2. The HEW-Interior Water Quality Coordination Committee already described coordinates programs of these agencies.

B. ESTIMATED COSTS

[In millions of dollars]

	Estimated	
	1964	1965
Department of Health, Education, and Welfare	0.9	0.9
Department of the Interior	1.0	1.0
Total	1.9	1.9

C. AGENCY PROGRAMS

1. Department of Health, Education, and Welfare

The Federal Water Pollution Control Act assigns to the Department of Health, Education, and Welfare the primary Federal responsibility for the control of water pollution. The directives and authorizations in the act are assigned collectively to provide a comprehensive program of prevention, reduction, and control of pollution to conserve waters for all legitimate uses. Each of the individual programs is supportive of the others.

A water quality data collection system was established in 1957 to carry out the Secretary's responsibility to "collect and disseminate basic data on chemical, physical, and biological water quality and other information insofar as such data or other information relate to water pollution and the prevention and control thereof." Stations are selected and operated to provide maximum support to the other water pollution control programs of the Public Health Service and to the programs of other Federal agencies, State and interstate agencies, municipalities, and industries concerned with water pollution.

The system collects, interprets, and provides pollution-related water quality data in support of Service responsibilities for—

(*a*) Developing comprehensive water pollution control program for river basins;

(*b*) Enforcement actions;

(*c*) Optimum use of water storage in Federal impoundments for water quality control; and

(*d*) Research planning.

The system also provides needed water pollution data relating to:

(*a*) Long-term trends in water quality which show where we are gaining or losing ground in pollution control, and to measure progress in specific remedial programs:

(*b*) Measuring short-term variations in water quality to point up water areas requiring special attention;

(*c*) Monitoring "spills" or new discharges of pollution having toxic or other deleterious effects on water quality and uses, and requiring immediate corrective actions; and

(*d*) Toxicological and epidemiological studies on the effects of specific pollutants on aquatic life and man.

There are five broad measurement areas of pollution significance included in the Service's water quality data collection program. These are—

1. Radioactivity levels;
2. Aquatic biological indicators;
3. Microbiological indicators;
4. Organic chemicals; and
5. General chemistry characteristics (mineralogical, physical, oxygen demand, and trace elements).

In all cases stations are located to provide maximum support to the operational water pollution control programs of the Service, and to support other Federal, State, and local agencies concerned with water pollution and its control.

In all cases stations are located so as to be sensitive to sources of pollution upstream and to water uses downstream. This requires fairly detailed prior knowledge of many factors affecting water quality in the area and particular attention to time-distance relationships in riverflows. Riverflow records of the U.S. Geological Survey are used in these decisions.

Because some water contaminants sought in this operation are unstable or biodegradable, many determinations of water quality of significance in evaluating pollution must be made immediately or within a short time after samples are taken. It is necessary, therefore, for a significant amount of laboratory work to be done at or close to the site of collection. In almost every case this service is provided at no cost to the Federal Government by State and local agencies or industries.

All other laboratory work is carried out by a central laboratory in Cincinnati.

2. *Department of the Interior*

Water is the principal, most abundant, and most useful of all the mineral resources. The Interior Department's principal concern with water is with those things necessary to assure an adequate supply for all uses in which the Nation might engage. This concern requires examination of the total water system and its identifiable subsystems and includes the hydrologic and hydraulic aspects of the system as well as its physics, chemistry, and biology.

Observation station networks are the mechanisms with which the Department acquires the water facts needed to fulfill its many missions. Network activity is of concern to several of its agencies but is focused principally in the programs of the Geological Survey. The nature and size of networks of the several agencies are described in the following statements.

The Bureau of Commercial Fisheries does not engage in the systematic collection of water data of areal scope by network systems. Physical, chemical, and biological measurements are taken at selected locations at or near 20 biological laboratories at daily to semiannual intervals. The data are collected for the purpose of determining the role water quality exerts on the distribution, abundance, survival, and growth of commercial species of fish.

The Bureau of Sport Fisheries and Wildlife does not presently operate or contemplate a formal water quality network.

Water samples are collected at variable intervals from fish hatcheries and waterfowl refuges and analyzed mostly by the laboratories of the Geological Survey. Random samples are collected from ponds, lakes, streams, and reservoirs in relation to the management and study of sport fish species. The Branch of Fishery Research has plans for installation of monitoring equipment on selected reservoirs in Arkansas and South Dakota.

Water quality investigations of the Bureau of Mines are arranged in response to specific, local situations. The Bureau does not operate a formal water quality network.

The Bureau of Reclamation supports water quality investigations at numerous locations on western stream systems by arrangement with the Geological Survey. Data are obtained at about 150 other locations in support of project planning, development, and operation. The sites are located mostly in canals and at points of diversion and drainage return within the Colorado River storage project. From 6 to 24 samples per year per site are analyzed for the usual cations and anions at the Bureau of Reclamation Laboratory. The data are used among other purposes for salt balance and irrigation suitability determinations. The program is expected to continue with little change through 1965 with the addition of observations in Lake Powell.

The Geological Survey appraises the availability and utility of water as a national resource for all uses. Appraisal includes assessment of water location, quantity and availability in addition to water quality which is the dominant concern of this discussion.

The water quality phases of water resources investigation programs of the Geological Survey may be grouped as—

(1) National networks to acquire basic hydrologic information:

(2) Areal studies of basin or local extent to examine, describe, and explain water quality in terms of the natural environment and pollution resulting from man's activities; and

(3) Research of physical, chemical, and biological controls of water quality.

The national networks contain (*a*) a base network for the Nation designed to define and coordinate with zones of relatively uniform natural environment and to serve multiple needs; and (*b*) special purpose networks coordinated with the base network, to serve specific needs and to deal with regional or local water problems.

The national water quality networks have many uses. They provide planning data for the construction of dams, diversion of water for irrigation, development of water supplies for cities and towns, choice of sites for industrial expansion, and suitability of areas proposed for outdoor recreation and water sports. In addition, it gives authoritative, unbiased information to those who must make timely decisions as to treatment, control, or regulation of a water supply. The Geological Survey water quality networks are useful also to the research worker who studies the relation of water to its environment.

The Geological Survey daily measures stream-water quality at 450 stations in the United States and Puerto Rico. These stations, together with others sampled on a weekly, monthly, or quarterly basis, total more than 1,300 stations for measurements of chemical quality, sediment, temperature, or any combination of such measurements.

Laboratory services for analyzing chemical quality and sediment samples are provided by Geological Survey personnel at the 17 standard Survey laboratories and at the Survey's three research centers. In one or two States, laboratory services are provided for part of the analytical programs as a part of the 50–50 Federal-State cooperation.

The data collected at the Survey's network stations include many chemical quality parameters, several sediment parameters, and temperature. For nearly all of the stations currently operated (fiscal year 1964) for chemical quality, the following parameters are being determined: Silion, iron, calcium, magnesium, sodium, potassium, alkalinity (principally carbonate and bicarbonate), sulfate, chloride, fluoride, nitrate, dissolved solids, pH, specific conductance, and hardness. Temperature is also measured at most of these stations.

In Western United States boron is determined at nearly all stations; in the east, and at some western stations, color is almost always measured. Other parameters are measured locally in response to specific needs. These include manganese, aluminum, nickel, cooper, lead, zinc, selenium, phosphate, dissolved oxygen, nitrate, ammonia, acidity, phenols, cyanides, arsenic, chromium, strontium, ABS, and several others. In addition, from 15 to 25 minor elements are determined spectrographically and several radionuclides are measured at certain selected stations.

The quality data collected by the Geological Survey is made available to the public in several ways. For those agencies and persons having a direct and prompt need for data, tabulations are supplied within a few days or weeks after the analyses are completed in the laboratory. For permanent records the data are published in two series of water-supply papers: "Quailty of Surface Waters of the United States," published annually since 1941; and "Quality of Surface Waters for Irrigation, Western United States," published annually since 1951.

Expenditures for surface water quality networks in other Interior bureaus than the Geological Survey are small and are not budgeted separately from the activities that they support. The amounts shown below are those for the Geological Survey only:

Fiscal year 1964	$995, 000
Fiscal year 1965	1, 005, 000

Additionally, approximately $356,000 appropriated for the Bureau of Reclamation is being transferred in fiscal year 1964 to the Geological Survey to make water quality measurements needed by the Bureau of Reclamation, and a somewhat larger amount is expected to be transferred for that purpose in fiscal year 1965.

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